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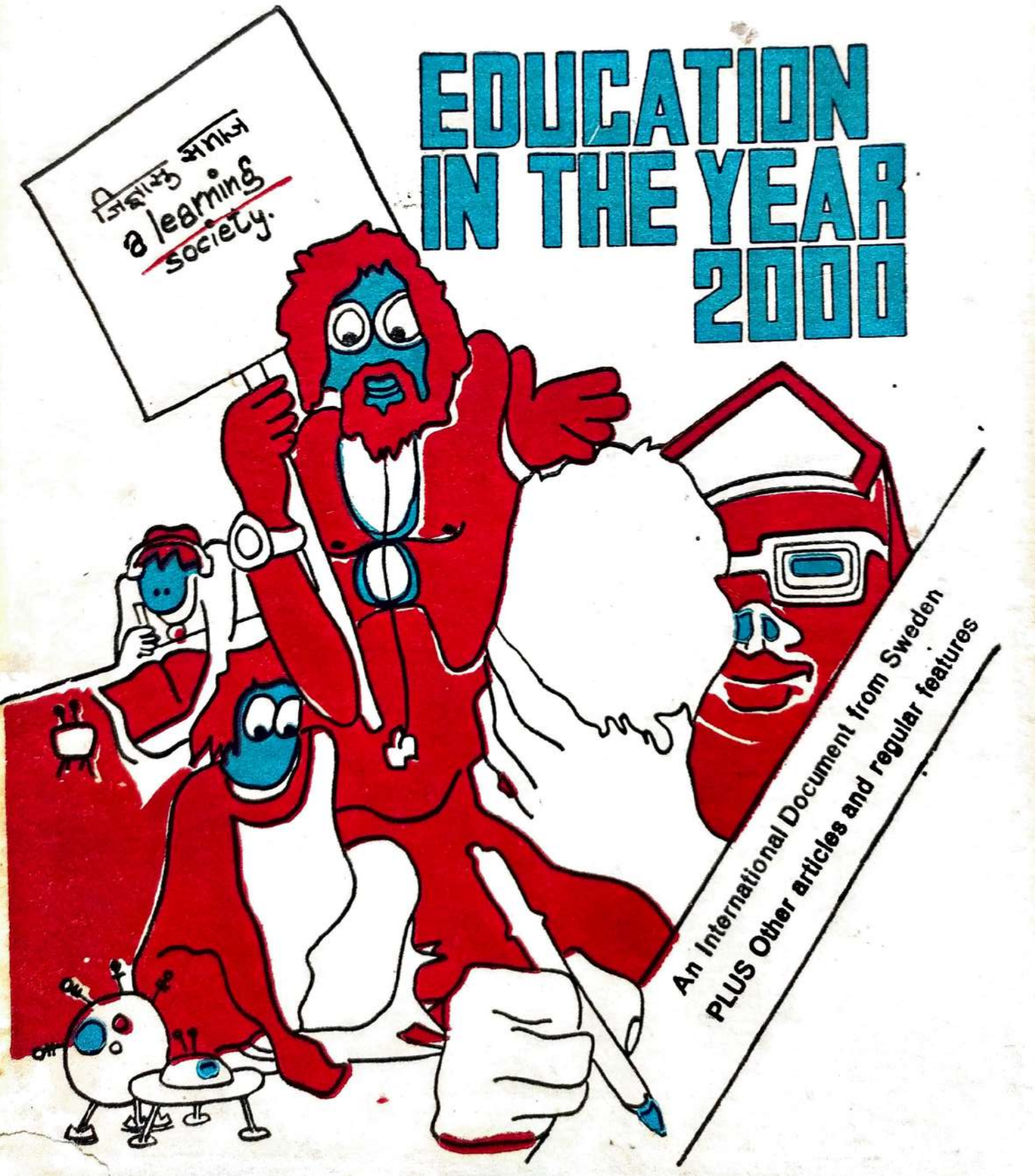

EDUCATION IN THE YEAR 2000

An International Document from Sweden

PLUS Other articles and regular features

Teacher Today

नया शिक्षक

Vol. 15 No. 1 July-Sept., 1972

संरक्षक

बरकतुल्ला खाँ
मुख्य मंत्री, राजस्थान

चंदनमल बैद
शिक्षा मंत्री, राजस्थान

सम्पादक मण्डल

एल. एन. गुप्ता
शिवरतन थानवी
गुर इकबाल सिंह

सलाहकार मण्डल

मोहिंदरसिंह
जे० एस० मेहता
एल० एल० जोशी
के० एल० बोर्दिया
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एस० एल० शर्मा
बी० जी० तिवाड़ी
गोपाल कृष्ण
वी० वी० वाजपेयी
सी० एस० भट्ट
(श्रीमती) ओ० जोशी
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I trust I am not indulging in lax quasi-philosophizing when I say that **the hallmark of contemporary man is his conviction that he can choose and shape his own future.**

See p. 104

—Torsten Husen,
Education in the Year 2000

naya shikshak

(Teacher Today)

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A Special Number on —

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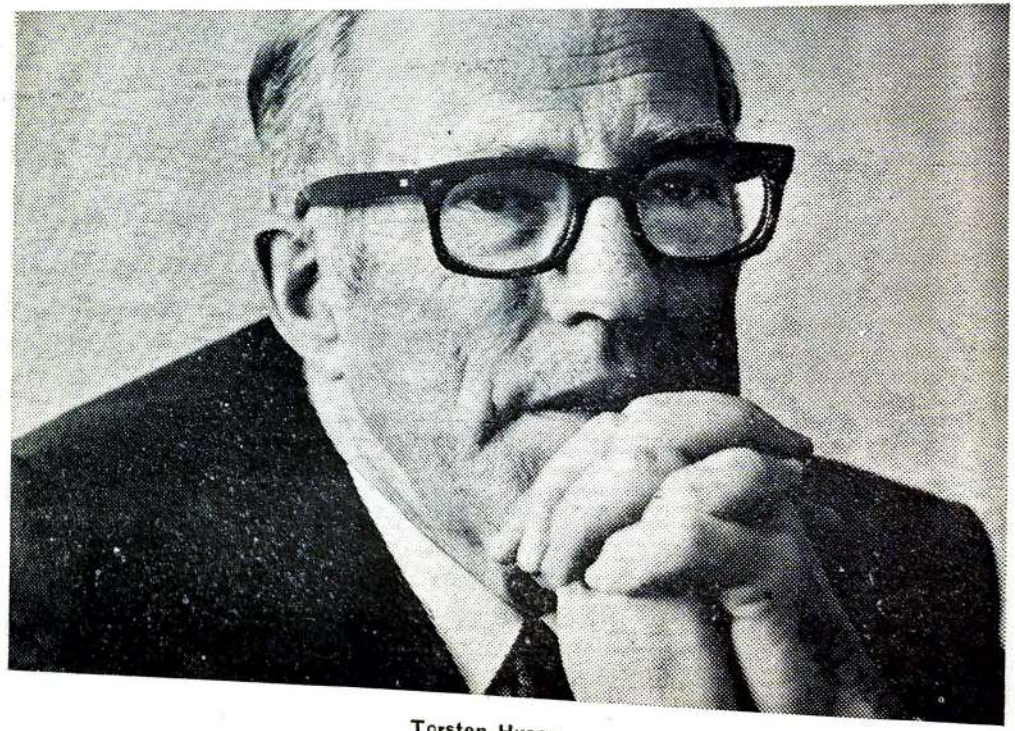

Torsten Husen

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The author of some 40 books, mostly research monographs. Has written on adolescence, ability and environment, the differentiation problem in the comprehensive school, studies on the content of curriculum in mathematics, physics, chemistry and civics, twin research etc. Among later publications: (Ed.) *International Study of Achievement in Mathematics*, New York and Stockholm 1967. *Educational Research and Educational Change. The Case of Sweden*, New York and Stockholm 1968. *Talent, Opportunity and Career. A twenty-six year follow-up of 1500 individuals.* Stockholm 1969.

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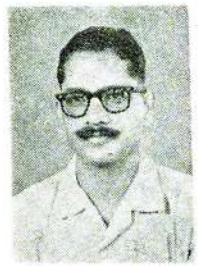

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Will you be the next author to make your name in NAYA SHIKSHAK/TEACHER TODAY? If you think so, send your typescripts (in duplicate), from 1500 to 2500 words, to the Editor NAYA SHIKSHAK/TEACHER TODAY, BIKANER (Rajasthan, India).

वै ज्ञा नि क

—आप विज्ञान से चाहे जितना भागना चाहें, जीवन के हर कदम पर आपकी भेंट विज्ञान से होती है. विज्ञान ने ही आज इतनी सुख सुविधाएं मानव को दी हैं. विज्ञान से दूर भागना अपने अस्तित्व को नकारना है—

हिन्दी विज्ञान साहित्य परिषद द्वारा प्रकाशित त्रैमासिक पत्रिका 'वैज्ञानिक' मानव और विज्ञान के मध्य एक सेतु का निर्माण करती है. अनेक तथाकथित चमत्कारों को समझने का अवसर है 'वैज्ञानिक'.

सूचना प्रभाग, सेंट्रल कॉम्पलेक्स
भाभा परमाणु अनुसंधान केंद्र
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सदस्यता शुल्क
एक वर्ष – चार रुपये
तीन वर्ष - दस रुपये मात्र

"लोक विज्ञान" (मासिक)

सन् १९६० से निरंतर प्रकाशित इस मासिक पत्रिका में कृषि, पशुपालन, स्वास्थ्य, गृह विज्ञान, सामान्य विज्ञान स्तम्भों में जनोपयोगी विषयों से संबंधित विद्वानों के विशिष्ट लेख सरल व सुबोध भाषा में प्रकाशित किये जाते हैं। देश के प्राय: समस्त प्रान्तों के स्कूलों व पुस्तकालयों में पठनार्थ खरीदने के लिये संबंधित राज्यों द्वारा स्वीकृत है। इसकी पुरानी फाइलें भी उपलब्ध हैं।

वार्षिक शुल्क – ८-०० रुपये
एक प्रति – ०-७५ पैसे
सम्पर्क सूत्र संपादक, "लोक विज्ञान", उदयपुर

Editorial

Looking into Future For Education

"In the twenty-first century education may at last come into its own." At least this is what R.M Hutchins had pinned his faith in when he was writing his great educational classic, '*The Learning Society*'. And if we are prepared to go along with Hutchins to make this not-so-distant dream a reality, we would be glad to share the joys of Prof. Torsten Husen and his associates who have created a monumental report for stimulating people to think to find out ways to have a correct image of the future of education.

This issue of NAYA SHIKSHAK/TEACHER TODAY brings to you an immensely valuable study of world trends in education which attempts to find out the shape of "Education in the Year 2000". The original report was published recently in Swedish. We are publishing here a compressed version of it in English and Hindi both. Though considerably compressed, it is a fairly comprehensive abstract. The common reader may have a sigh of relief : it is free from technical jargon and there are no tables and no statistics. The erudite reader may have his share of elation : the quality of production and scholarship. Both kinds of readers—the common and the erudite—will find that as most of its material was used for oral presentations at international meetings, the form and style is more readable and interesting. In the Hindi translation too, our translators have made all sincere efforts to keep up a maximum semblance of the expression and elegance of the English version.

The society is changing fast. Science, technology, and rising aspirations are accelerating it. The shape of schools, colleges and universities also is bound to change. Tomorrow's educational institutions will bear little resemblance to the time honoured type we know today. Due to this unexpected, rapid and what Conant had termed a '*forced*' expansion, it seems it is essential to seek emancipation from the obsession of the immediate. We have not yet realized

education today we are more inclined to use the term 'learning' to mean education, whereas in the past for centuries, to a number of generations, it had meant merely 'teaching'. The reports on education nowadays are being named *'Living and Learning'* (Hall-Dennis Report, 1968) or *'Learning to be'* (Faure Report, 1972) and the educationist Hutchins dreams of a society that would have a continuing high regard for learning, and so, in deference to this fond dream, one of his books bears the title *'The Learning Society'*.

The other side of the coin has a different picture. Centres of learning, what Conant chose to call 'Citadels of Learning', are fast being flung to flames but by none else than those who want to make this act of burning an apparent manifestation of the intensity of their keenest desire for learning.

Demands for better opportunites of education would still rise but only a right understanding of the objectives of learning and continuing desire for learning can save the world from catastrophe.

Prof. Husen, the man behind this refreshing report, is professor and Head of the Institute for the Study of International Problems in Education at the University of Stockholm. He has also taught at Chicago, Stanford, Hawaii and Ontario and has a long experience of teaching, writing and research. He has about forty publications to his credit. (Please see the column *Contributors* for more details). We are happy to note that we were able to arrange an airdash of his photograph which we trust would make this interesting human document really lively.

We are deeply grateful to the author, the Institute and the Board behind it, for making this report available to us. The National Board of Education, Sweden, deserves heartiest congratulations for sponsoring such a valuable study.

We hope this timely document will prove to be worth a precious place on the shelves of all the planners and policy-makers in Education in any part of the world. It is a vision and it prepares one for a vision. It is a perfect model of a process—a process of a passionate (yet) scientific search to obtain a proper perspective in educational planning.

Of course, if one doesn't want to be bothered with such a longish look into the future, one has nothing to lose but education. For the

right and real course of future education will definitely be determined by the clarity of vision with which we are able to see the future of our youngsters and the future of the youngsters of tomorrow.

Reactions to this report are most welcome.

सम्पादकीय

शिक्षा के लिये भविष्य में दृष्टिपात

यह अंक एक विशेष प्रकार का विशेषांक है। स्वीडन के नेशनल बोर्ड ऑफ एज्यूकेशन से हमारा एक लम्बे अरसे से घनिष्ट संपर्क रहा है। एक रोज इनके यहां से आने वाले शैक्षिक अनुसंधान के प्रतिवेदनों में एक प्रतिवेदन ऐसा मिला जो किसी सामान्य अनुसंधान प्रायोजना से सर्वथा भिन्न था। नाम था 'सन् २००० में शिक्षा'। भीतर देखा तो काफी विस्तृत विश्लेषण था। आज उठने वाले लगभग सभी प्रमुख विवादों का समावेश था। इतने दूर भविष्य में क्यों दृष्टिपात करें इसका विवेचन भी था। जिन्होंने इस दिशा में सोचा है वे क्या कहते हैं इसका उल्लेख भी था। जिन्हें इतनी दूर की सोचने की अनिवार्यता प्रतीत नहीं होती या न होने का स्वभाव सा पड़ गया है वे क्या कहेंगे इसका भी उल्लेख था। और सुदूर भविष्य के लिये समुचित समय पर पर्याप्त तैयारी के लिये क्या आवश्यक होगा इस पर विचार की भी काफी सामग्री थी। और यह तब जब कि मूल इसका स्वीडिश में निकल चुका था और ये उसके आंशिक अंग्रेजी अनुवाद मात्र थे। हमने तत्काल यह निर्णय लिया कि अंग्रेजी में प्राप्त हुआ यह आंशिक प्रतिवेदन हमारी पत्रिका के लिये सर्वथा उपयुक्त है। संभवत: दुनिया के किसी देश में अभी तक इक्कीसवीं शताब्दी में शिक्षा के स्वरूप हेतु इतना विस्तार से विचार आज तक नहीं हुआ है और यदि पाठक व लेखक इस विषय के लिये आवश्यक संदर्भ साहित्य का मनन करें और इस प्रतिवेदन में व्यक्त विचारों पर अपनी प्रतिक्रिया व्यक्त करते हुए भविष्य की दिशा निर्धारित करने हेतु आवश्यक सुझाव देकर इस बहस में भाग लें तो संभव है हमारी बहस भी भावी भारतीय शिक्षा के दिशा-निर्धारक तत्वों का अन्वेषण करने में देश को काफी सहायक हो सकेगी।

व्यक्त-अव्यक्त चिंतन-मनन

यह एक महत्वपूर्ण अंतर्राष्ट्रीय दस्तावेज है। किसी भी देश की कोई शैक्षिक योजना तब तक अधूरी रहेगी जब तक कि उसे भविष्य के समुचित परिप्रेक्ष्य की सुदृढ़ आधारभूमि न मिल जाय। यह प्रतिवेदन और इससे उत्पन्न होने वाला व्यक्त-अव्यक्त चिंतन-मनन हमारी हर शैक्षिक योजना के लिये जरूरी है। अंतर्राष्ट्रीय योजनाओं में तो यह दृष्टि रहेगी

ही, अन्तर्देशीय स्तर पर भी एवं राज्य व जिला स्तरों पर भी, किंवा विद्यालय स्तर पर भी, भविष्य की दृष्टि का ज्ञान नितांत आवश्यक होगा।

यह दस्तावेज़

इस दस्तावेज़ में चार खण्ड हैं। चारों खण्डों की विषय सूची प्रारंभ में हमने दी है। उस पर एक नजर डाल लें। फिर जहां जैसा उपयोगी प्रतीत हो पढ़ लें। क्यों है यह दस्तावेज, क्यों हो हमें भविष्य की दृष्टि, यह समझने के लिये पहला खण्ड पढ़ना उपयोगी रहेगा। अपनी रुचि के विषय पर पहले विवेचन देखना है तो शिक्षा पद्धति, समाज, विद्यालय, परिवार, नौकरशाही (या दफ्तरशाही), वित्त, संगठन, श्रमिक, प्रौढ़-शिक्षा या आवर्त्तक या अनवरत शिक्षा, समानता, शैक्षिक विच्छेद, युवशिक्षा, पूर्व शिक्षा, स्वास्थ्य, संचार-साधन आदि में से भी किसी को पहले चुन सकते हैं। जहां से भी उठायेंगे आपको जरूर कुछ सामग्री ऐसी मिलेगी जो विचार या चिंतन के लिये आपको नई प्रेरणा देगी।

संदर्भ साहित्य

इस प्रकार के साहित्य का कुछ उल्लेख इसमें है। कुछ आप स्वयं जुटा सकते हैं, जुटाना चाहिये। कई अन्य प्रकाशन पाश्चात्य जगत् से निकले हैं, भारत में भी कुछ यत्र-तत्र हिन्दी में व अन्य भाषाओं में हो सकते हैं, (ग्रंथाकार पूरा चिंतन हमारे ध्यान में एक भी नहीं है जैसा इसमें या हचिंज की 'लर्निंग सोसायटी' में व्यक्त हुआ है) हों, और हमें सूचित करें तो पाठकों के ध्यान में लाने में हमें प्रसन्नता होगी।

भारत में ऐसे प्रकाशन (!)

कुछ चिंतन-परक, कुछ अनुसंधान-परक ऐसे प्रकाशन भारत में हों, होते रहें, तो शैक्षिक आयोजना के छोटे-बड़े सभी कर्णधारों को मार्गदर्शन मिल सकता है और भाविष्यिक चिंतन की एक सुचिन्तित दिशा हमें प्राप्त हो सकती है।

आभार

स्वीडन के स्टाकहोम विश्वविद्यालय और नेशनल बोर्ड ऑफ एज्यूकेशन के प्रति हम आभारी हैं जिनके सहयोग से यह वृहत् प्रबंध पाठकों के समक्ष रखने का हमें अवसर मिला है। प्रो० ह्यूसन व उनके समस्त सहयोगियों के प्रति भी हम विशेष आभारी हैं जिनके श्रम का यह सुफल हमारे पाठकों-लेखकों को आने वाले कल की मूल्यात्मक प्राथमिकताओं के विषय में सजग और विचारवान बनायेगा।

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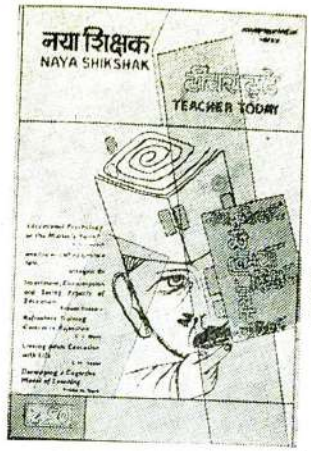

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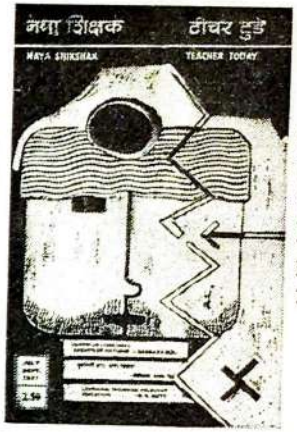

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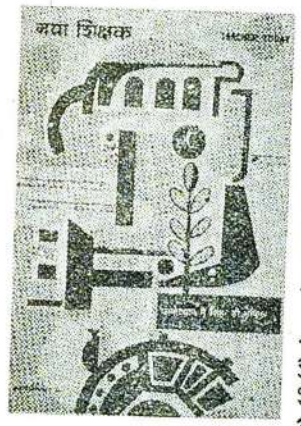

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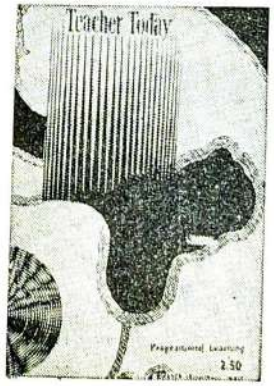

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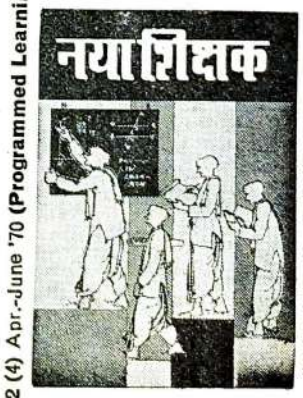

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Teacher Training Planned or Spontaneous ?

[Experiences from G.D.R.]

Dietrich Blandow

SOCIAL and scientific-technical processes develop along objective lines. This results in increasingly higher demands on knowledge, abilities and skills of people in all age groups and in all walks of life. There is a growing trend for all spheres of life to be geared to the process of production. Comprehensive and profound knowledge is needed to competently meet the daily demands of the production process and the needs of other spheres of social life.

For coping with the scientific-technological revolution we do not only need producers of material wealth well-versed in their respective fields, all members of our

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society must also be aware of the position occupied by the individual within the overall system of society. Only when bearing in mind society as a whole can the individual participate actively and consciously in the mastering of social processes.

The tremendous explosion of knowledge in all branches of science and in all spheres of social life, the emergence of new fields of knowledge, the early application of scientific findings in industry and in the science of management operation and organisation, the enhanced importance of chemistry in our economy and many other problems relating to the scientific-technological revolution, are characteristic of the present-day period. All these phenomena call for continuous and systematic changes in our educational system with special emphasis on the scientific forecasting of the trends of development in society.

For this reason school curricula must be subjected to constant revision, modification, and renewal. Let us call to mind this necessity by citing some cases in point:

Science, economy and other spheres of production are unthinkable without electronic data processing. The application of chemical principles is not confined to the chemical industry proper. Chemical action principles are also utilized in the moulding of materials. The application in industry of physical sciences such as the plasma physics has ceased to be a rare phenomenon.

Syllabuses and the educational subject-matter, they are made up of, must consciously take into account such changes. Therefore, for instance, after 1945, 1952, 1959 and 1963, new curricula were introduced in the schools of GDR in 1969. They were drawn up, implemented and conceived as a uniform teaching system as a result of close co-operation between teachers, educationists, social scientists and scientists working in various branches.

The universal introduction of comprehensive curricula, making higher demands on the standards of education and instruction, initiated a far-reaching, radical, long-term process of change affecting all educational spheres. These revolutionary and sweeping changes cannot be fully grasped without taking into consideration the trends of development in the sciences.

The implementation of new comprehensive curricula makes challenging demands on knowledge and abilities of the teachers in terms of subject-matter, pedagogics, psychology, philosophy, social science, methodics. Looking into the causes for the necessary changes in the curricula we can also put it like this: Progress and advance of society as a whole and science and technology in particular spotlight the duty of every teacher to keep learning all throughout his active years in service. Failing this he won't be able to keep up with the brisk rate of development and is bound to lag behind. There is no end of learning for the teacher. Thus we are faced with an entirely new task as far as the subject-based, methodical and organizational qualification and inservice training of the teacher is concerned.

Certain Government bodies should be in charge of pre and inservice training of teachers. In GDR, in accordance with Governmental directives these bodies draw up, set out, organize and implement training schemes. On the initiative taken by the GDR Government such bodies operate – attached to the Ministry of Education or the smaller territorial and administrative units, i.e., the counties and districts. Within the overall system of further training of teachers we differentiate—in terms of content and organization—between two main branches:

The "course system" (inservice training) and "qualification at work".

Let us first deal with the 'course system'. It was developed along with the introduction of the new comprehensive curriculum. It is designed to enable the teacher to fully meet the demands of the existing curricula as far as ideological foundation and content are concerned. It is deemed particularly necessary for the teacher to keep approaching his pedagogical and subject-based problems in a creative and independent way.

Development involves obsolescence of knowledge. The student must be enabled to effectively replace certain portions of obsolete knowledge by the latest findings and results in his special subject, in the fields of Marxism-Leninism, pedagogics and psychology. Only in this way can he keep up with the latest standard in the various branches of learning mentioned.

The 'course system' is geared to cater for all teachers in such a way that once every four years every teacher undergoes a course of inservice training for the duration of one year. In this time, as a matter of course, the teachers carry on with their teaching work. Mostly, however, courses are held during the holidays. Thus 25% of all GDR teachers are constantly involved in the process of inservice training. During the one-year course of training every teacher deals with 3 complexes: A,B and C.

(A) At first the teacher increases and improves his knowledge in the field of Marxism-Leninism. He attends lectures and seminars. Apart from compulsory private studies this phase is scheduled to comprise 22 periods. It is timed to coincide with the autumn holidays in October. The topics of the course are laid down in a binding programme drafted by the Ministry of Educa-

tion. This also goes for the themes and topics of the other phases. Here are some of the topics covered:

'Marxism-Leninism as a scientific theory of the working class and their party'; 'Aims and purpose of Socialist ideology and culture in shaping the advanced system of Socialism'; 'On some philosophical problems in the development of science and technology arising in the process of the scientific-technological revolution'; 'Dialectical Materialism — the philosophical basis of the natural sciences and the significance of the sciences under Socialism'; 'Interrelation between Man, Technology, Nature, Science, Philosophy and Society'.

By concerning themselves with these and other problems the teachers are to be encouraged to delve deeper into fundamental contemporary issues. Through these studies he will get a better and more profound theoretical understanding of the ideological problems changing over the years. Above all, he will get hints and food for thought on how to utilize creatively his Marxist knowledge in his endeavours to educate his pupils to become socialist personalities.

(B) During the first part of the course in October the participants are already handed in writing the topics for the second part of the course, timed to coincide with the holidays in February. Thus he can prepare himself for the following phase well in advance. The course held in February embraces 33 periods for lectures and seminars in pedagogics and psychology. This section of the programme concentrates on vitally important basic problems raised by the present-day stage of development of the educational system. This is where the guiding principle comes in :

The General Polytechnical High School (for all children from forms 1 to 10) is expected to educate many-sided young people with a broad general (liberal) education who take an active part in shaping our society aware of the objective laws governing our time.

Based on the course in 'Marxism-Leninism' the course in pedagogics and psychology draws attention to the relationship between certain social needs and measures for meeting these needs. The course is to illustrate the relationship between the requirements of society, aims and content of education as set out in the new curriculum – and the measures and methods necessary to meet these needs and to shape and organize the process of education and instruction. Furthermore, effective assistance is to be provided for the day-to-day teaching work. The focal point of this part of the course is the awareness that the great humanist ideal of a personality having a well-rounded education is taking shape in the GDR. From the point of view of pedagogics

we aim to heighten the consciousness of the nature of man and his education. Here is a list of topics dealt with during the course :

'Demands on the Socialist personality and function of the educational system'; 'Fundamental conclusions and concepts of Marxist pedagogics and psychology concerning the personality and its education and development'; 'Basic principles underlying the educational policies in the GDR based on the law on the integrated Socialist educational system – aims and tasks of the General Polytechnical High School in educating class-conscious citizens and in providing a modern general education for all pupils'; 'Didactic-methodical approach of the new comprehensive curriculum and its significance for the all-round developed personality'; 'Methods, forms of organization, and ways of planning lessons and their efficacy for educating personalities'; 'Forming and strengthening of Socialist convictions and modes of conduct and their methodical development'.

Phases A and B are drawn up and organized along the same lines for all teachers. During the course held in February the teachers of the various subjects get specialized teaching programmes for phase C, i.e. specialised subject-based and methodical instruction. Lectures, seminars, practical work and excursions are timed to coincide with the holidays in July totalling 65 periods. In accordance with the diverse subjects taught by specialized teachers the programmes are rich and varied catering to all needs.

Points made earlier hold also true for this part of the course. Every teacher must not cease to brush up his knowledge and methodical skill gained during the studies and in his teaching work. Only in this way is he able to do his teaching more effectively and to implement the new comprehensive curriculum creatively.

Thus teachers of chemistry, for example, are informed about the trends in their special field particularly in the field of techniques and in the chemistry in polymers, and about the importance that must be attached to chemistry within the framework of the scientific-technological revolution in the GDR.

Other topics are concerned with the atomic structure seen from the point of view of quantum mechanics, with chemical bonds and other types of bonds. They deal with the theory of chemical reactions, with the importance of the experimental approach in chemistry and with the function of experimenting in classes.

The "teacher for Work Experience" deals with modern technological processes, problems of automaton, problems of weak-current engineering, questions of socialist economics as well as with specific ideological and didactic-

methodical problems arising in the teaching of polytechnics in the forms 7–10. Here are some characteristic topics for the methodical qualification of biology teachers :

'Didactical arrangement of the teaching process'; 'Latest findings concerning the physiology of plants, animals and man'; 'Problems involved in genetics, anthropogeny, protection of environment, development of the biological sciences, and biological system'.

Lectures are given by professors and lecturers of universities and colleges or experienced teachers and educationists. We attach special significance to the exchange of experience among the experts.

Parts A and B of the course are mostly held in district towns. Part C of the course, however, is held in a county city or at a suitable scientific institution in the area of the county concerned.

I would also like to touch on the second type of qualification, i e. 'Further training at work'. All teachers not covered by this course system improve their knowledge too. These courses are not centrally organized. Teachers meet in small study groups, under the guidance of a leader teacher. The tasks of a leader teacher for instance for Work Experience are the following :

-He co-ordinates the preparations for the lessons of all teachers at his three or four schools, e.g. construction of teaching aims, compositions for lessons, selection of products or works for the pupils in every form (one teacher doesn't prepare all these special aspects alone; he prepares two or three aspects for all teachers in his area).

-He arranges meetings with all teachers for Work Experience in his area up to a period of 6 to 8 weeks. One of the headmasters of the Pilot schools should attend to stabilisation of thinking about main aims of Work Experience, the purpose in every period in a farm, talks about model lessons, model tests, demands for an examination, measures in case of difficulties from an organizational point of view.

-He helps the other teachers (improvement of their knowledge, selection of the contents for the next central qualification course in a RCE or NCERT).

-He selects the technical exhibitions, progressive farms, enterprises and public building sites for the inspections with the pupils.

-He tests the teaching aims and suggests rationalising.

-He asks an individual teacher to fill a form regarding his monthly work at the end of every month and this will be record of self evaluation. In order to make the teamwork more effective at the end of every particular period of time the meeting of the teachers for Work Experience will be organized to discuss the main points of teaching.

-He will advise the teachers to keep their daily lesson plans and teaching diaries.

-He is an enthusiastic teacher for Work Experience; responsible for selection of the headmasters of the Pilot schools.

Often modern and well-equipped schools disposing of laboratories and science centres, run by experienced teachers, are declared 'schools of consultation'. Teachers working at these schools frequently take charge of these study groups. Experience is exchanged, problems arising in the various subjects are discussed and the preparatory work for the following school year is undertaken jointly. The activity of these study groups is sponsored by so-called special (subject-based) seminars existing in every district and for every subject taught at school. The working groups of practitioners are answerable to the District Board of Education.

The system of inservice training and qualification proceeds from the premise that there cannot be any complete and all-embracing system of pre-service training, because the incessant development of the productive forces and of society as a whole makes learning a permanent necessity.

सार-संक्षेप

अध्यापक-प्रशिक्षण – योजनाबद्ध अथवा स्वतः स्फूर्त

– डी. ब्लॅंडोव

जब ज्ञान के अनन्त विस्फोट के कारण प्रत्येक क्षेत्र में ज्ञान का अनन्त विस्तार हो रहा है, तब प्रत्येक क्षेत्र में कार्य करने वालों के लिए नये ज्ञान का प्राप्त करना आवश्यक है। ऐसी स्थिति में अध्यापकों से विषयवस्तु, शिक्षण-पद्धति, मनोविज्ञान आदि विषयों में विशेष ज्ञान एवं योग्यता की अपेक्षा की जाती है। इस कारण अध्यापक प्रशिक्षण में विषयवस्तु के ज्ञान, पद्धति, व्यवस्था एवं सेवाकालीन प्रशिक्षण आदि की समस्याएँ आती हैं। जर्मन जनवादी गणतंत्र में इस प्रकार की व्यवस्थाएँ जिला स्तर पर सरकारी संस्थाएँ करती हैं।

यहाँ का अध्यापक-प्रशिक्षण दो भागों में विभक्त है।

(१) पाठ्यक्रम पद्धति (सेवाकालीन प्रशिक्षण)

(२) कार्यरत रहते हुए योग्यता में वृद्धि

पाठ्यक्रम पद्धति :– इसमें अध्यापकों को वर्तमान पाठ्यक्रम के सैद्धान्तिक आधार एवं विषयवस्तु के सम्बन्ध में प्रशिक्षण दिया जाता है। इसमें उनको मार्क्सवाद-लेनिनवाद शिक्षण पद्धतियों आदि में आधुनिकतम ज्ञान दिया जाता है। इस पाठ्यक्रम में प्रत्येक चार साल बाद प्रत्येक अध्यापक को साल भर के लिए

आना पड़ता है। इसमें अध्यापक नियमित रूप से पढ़ाता रहता है क्योंकि पाठ्यक्रम छुट्टियों में चलता हैं। पाठ्यक्रम तीन भाग अ, ब, स में विभक्त कर तीन विभिन्न समयों में पढ़ाया जाता है।

कार्यरत रहते हुए प्रशिक्षण :- यह प्रशिक्षण उन सभी अध्यापकों के लिए है जो पाठ्यक्रम-प्रशिक्षण में नहीं होते हैं। यह प्रशिक्षण अध्यापकों के कार्यस्थलों पर ही होता रहता है। इसमें शिक्षा के उद्देश्य, पाठयोजनाएँ, कार्यानुभव योजना आदि शाला के महत्वपूर्ण विषयों पर विचार होता है। कुछ परामर्शदात्री शालाओं के अध्यापक दूसरी शालाओं के अध्यापकों को परामर्श देते हैं। इस प्रकार पूर्व जर्मनी में प्रशिक्षण स्वतः सीखने की अनवरत प्रक्रिया है। **[भै. दा. चा.]**

●

IF THIS BE TREASON.....

The purely numerical need created by the legitimate goal of mass education has shown that the supply of born teachers is entirely inadequate, not only to man the schools *but to uphold the idea of the school.* That idea survived for a while in the universities. Now they too are in the hands of persons who want institutions of higher learning for almost any purpose but learning. Outside, there is no philosophic voice speaking—or capable of making itself heard—on the subject of teaching and learning. The voices we do hear give up undigested fragments of old doctrine thoroughly misunderstood.....Those whom we profess to make into teachers out of indifferent material emerge from the course ignorant or bewildered, aimlessly earnest or flabbily cynical.

—Jacques Barzun

अभिक्रमित अध्ययन

शिक्षा में एक नवीन आयाम

भागीरथसिंह शेखावत

मानव जीवन में सीखने की प्रवृत्ति का अत्यधिक महत्व है। किसी कारखाने में कार्य करने वाले, सेना में भर्ती होने वाले, स्वयं का उद्योग स्थापित करने वाले अथवा किसी भी नये कार्य को आरंभ करने वाले प्रत्येक व्यक्ति को कारखाने की मशीन, सेना के नियमित जीवन एवं उद्योग आदि से सम्बन्धित जानकारी को सीखने की आवश्यकता पड़ती है। मनुष्य को यह सारी जानकारी प्राप्त करने के लिये किसी अन्य जानकार की आवश्यकता होती है। वह अन्य जानकार उसका शिक्षक कहलाता है। यह शिक्षक उसके जैसा ही अन्य मानव हो सकता है अथवा कोई पुस्तक, चलचित्र, टेलीविजन, ग्रामोफोन रिकार्ड, टेप रेकार्डर

सहायक निदेशक, राज्य शिक्षा संस्थान, उदयपुर

आदि भी। शिक्षक और शिक्षक के रूप में पुस्तक मनुष्य द्वारा नवीन ज्ञान की प्राप्ति में सहायक होते हैं। कभी-कभी तो पुस्तक, चलचित्र, टेलीविजन आदि जिस सरलता से शिक्षा प्रदान करते हैं उसकी तुलना में मानव शिक्षक द्वारा शिक्षण नगण्य सा प्रतीत होने लगता है। वस्तुस्थिति भी यह है कि यदि अन्य प्रकार की अध्ययन सामग्री (पुस्तक, टेलीविजन आदि) का उपयोग सुनियोजित विधि से किया जाय तो शिक्षण का कार्य मानव शिक्षक की तुलना में अधिक उत्तम होगा।

प्रोग्राम्ड लर्निंग की उत्पत्ति

सीखने की क्रिया को सरलतम व प्रभावी बनाने की दृष्टि से अनेक शिक्षण विधियों का प्रादुर्भाव हुआ है। इन सब की समय-समय पर जांच भी की गई है, परन्तु इस जांच के आधार पर निश्चितरूपेण यह नहीं कहा जा सकता है कि इनमें से अमुक शिक्षण विधि ही सर्वोत्तम है। इन सब शिक्षण विधियों में प्राचीनतम एवं तुलनात्मक दृष्टि से अधिक लाभप्रद वह विधि है जिसमें विषयवस्तु को छोटे पदों में विभक्त कर शिक्षार्थी के समक्ष प्रस्तुत किया जाता है तथा एक पद को हृदयंगम करने के उपरान्त ही शिक्षार्थी आगे की विषयवस्तु को सीखने का प्रयत्न करता है। गणित के जटिलतम प्रश्नों, लम्बी कविताओं और संगीत सीखने में इस विधि को उपयोग किया जाता रहा है। शिक्षण क्षेत्र के आधुनिक अनुसन्धानों ने इस विधि को परिमार्जित कर अधिक शक्तिशाली एवं प्रभावी शिक्षण उपकरण के रूप में इसे प्रस्तुत किया है। अनुसन्धानों की कसौटी पर खरी उतरने वाली इस शिक्षण अथवा अध्ययन विधि को प्रोग्राम्ड लर्निंग अथवा अभिक्रमित अध्ययन की संज्ञा दी गई है।

अभिक्रमित अध्ययन की आधुनिकतम विधि की आधारशिला शिक्षा के क्षेत्र में गत दो हजार वर्षों के अनुभवों पर रखी गई है। पुराने अनुभवों के आधार पर इसको नवीन स्वरूप प्रदान करने का श्रेय बीसवीं सदी के सिडनी एल० प्रेसे एवं बी० एफ० स्किनर आदि व्यक्तियों को है। सन् १९२६ में ओहियो स्टेट विश्वविद्यालय के मनोवैज्ञानिक सिडनी एल० प्रेसे ने एक टीचिंग मशीन बनाई थी। इस टीचिंग मशीन में अभिक्रमित सामग्री को रख दिया जाता था। शिक्षार्थी को उसके द्वारा दिये गये उत्तरों के परिणामों की तुरन्त पुष्टि करा दी जाती थी। प्रेसे ने इस मशीन के उपयोग से यह निष्कर्ष निकाला कि इससे शिक्षार्थियों में नवीन ज्ञान की प्राप्ति की दिशा में प्रेरणा मिलती है। सन् १९२९ की आर्थिक मन्दी तथा इस मशीन में प्रयुक्त होने वाली अभिक्रमित सामग्री के अभाव में प्रेसे के इस प्रयोग में शिथिलता आ गई। प्रेसे तथा इससे पूर्व के समस्त शिक्षण अनुभवों का लाभ उठाते हुए सीखने की क्रिया को सरल एवं प्रभावी बनाने की दृष्टि से हारवर्ड विश्वविद्यालय के बी० एफ० स्किनर तथा जेम्स० जी० हालैण्ड जैसे मनोवैज्ञानिकों ने प्रयोगशाला में कई प्रयोग किये और निम्नांकित निष्कर्ष निकाले :–

(१) सीखने की क्रिया को अवाध गति प्रदान करने की दृष्टि से व्यक्ति को उसके द्वारा किये गये कार्य के परिणामों की तुरन्त पुष्टि कराने की आवश्यकता होती है।

परिणामों की तुरन्त पुष्टि करा देने से विद्यार्थी को ज्ञान प्राप्ति की दिशा में प्रेरणा मिलती है तथा नवीन पाठ्यवस्तु उसके लिए रोचक एवं पाचक बन जाती है।

(२) सीखने की क्रिया में पुनर्बलन (रि-इनफोर्समेंट) के सिद्धान्त का उपयोग सीखे गये ज्ञान को स्थायित्व प्रदान करने में सहायक होता है।

(३) पुनर्बलन का उपयोग शिक्षार्थी द्वारा समस्या के हल करने के तुरन्त पश्चात जितनी शीघ्रता से किया जायगा उतनी शीघ्रता से ही उसमें वांछित व्यवहार परिवर्तन की सम्भावनाएं बढ़ेंगी।

(४) अध्ययन में लीन शिक्षार्थी के लिए पुनर्बलन का उपयोग जितना अधिक होगा उतना ही अधिक उसके द्वारा सीखे गये ज्ञान में स्थायित्व आयगा।

(५) सीखने की क्रिया में पुनर्बलन का अभाव अथवा इसके प्रस्तुतीकरण में किया गया विलम्ब स्थायित्व की सम्भावनाओं को कम करता है।

(६) सीखने की क्रिया में पुनर्बलन का सविराम उपयोग (Intermittant use) शिक्षार्थी में रुचि उत्पन्न करता है एवं साथ ही विकास भी करता है।

इन निष्कर्षों के आधार पर ही स्किनर ने अभिक्रमित अध्ययन की विधि को प्रतिपादित किया। इस विधि में मुख्य रूप से नीचे लिखी विशेषताएं हैं :–

१. विषय वस्तु को छोटे पदों में विभक्त करना – अभिक्रमित अध्ययन की विशेषता है कि इसमें विषयवस्तु को छोटे-छोटे पदों में विभक्त कर दिया जाता है। प्रत्येक पद इतना बड़ा होता है कि शिक्षार्थी उसे सरलता से सीख जाता है।

२. छोटे पदों को शृंखलाबद्ध रूप में प्रस्तुत करना – विषय वस्तु के छोटे पदों को इस प्रकार से शृंखला-बद्ध कर दिया जाता है कि इस शृंखला में असम्बद्धता का दोष नहीं हो पाता।

३. परिणामों की तुरन्त पुष्टि करना – अभिक्रमित अध्ययन में शिक्षार्थी द्वारा किये गये प्रत्येक कार्य का परिणाम उसे तुरन्त बता दिया जाता है। ऐसा करने से उसे स्वयं के त्रुटिपूर्ण अथवा त्रुटिरहित कार्य का पता लगता रहता है और तदनुरूप ही वह प्रगति के मार्ग पर अग्रसर होता रहता है। वर्तमान परिपाटी की भांति परिणाम की जानकारी के लिये उसे प्रतीक्षा नहीं करनी पड़ती।

४. छात्रों का सक्रिय सहयोग प्राप्त करना – बुनियादी शिक्षा योजना विधि आदि अनेक विधियों में इस सिद्धान्त पर विशेष बल तो दिया गया है किन्तु इसका सही रूप से पालन नहीं कराया जाता। अभिक्रमित अध्ययन में ऐसी व्यवस्था की गई है कि जिससे प्रत्येक शिक्षार्थी को सक्रिय रहना ही होता है। उसके निष्क्रिय रहने की इसमें कोई गुंजाइश ही नहीं रहती।

५. स्वयं की गति से सीखने का अवसर देना – अभिक्रमित अध्ययन की यह विशेषता है कि इसमें प्रत्येक शिक्षार्थी को उसकी स्वगति से नवीन ज्ञान सीखने का अवसर मिलता है। परम्परित कक्षाओं में प्रत्येक विद्यार्थी को उसकी स्वयं की गति से पढ़ाना यदि असंभव नहीं तो दुष्कर अवश्य है। दूसरे शब्दों में यह कहा जा सकता है कि अभिक्रमित

अध्ययन में प्रत्येक छात्र की गतिविधियों की ओर व्यक्तिगत ध्यान दिया जाता है। यह कहना भी अतिशयोक्तिपूर्ण नहीं होगा कि इस विधि में अध्यापक और छात्र का अनुपात १:१ का होता है जो कि वर्त्तमान में प्रचलित परम्परित शिक्षण विधि में संभव नहीं है।

६. त्रुटियों के लिखित रिकार्ड के आधार पर संशोधन कर सकना – अभिक्रमित अध्ययन में छात्रों द्वारा की गई त्रुटियों का लिखित रिकार्ड रहता है। इस रिकार्ड के आधार पर शिक्षक अथवा प्रोग्रामर को यह पता चल जाता है कि विद्यार्थियों को अभिक्रमित सामग्री में किन-किन स्थानों पर कठिनाई का सामना करना पड़ा। कठिनाई वाले अंशों में सुधार कर के अभिक्रमित सामग्री में संशोधन किया जाता है। परम्परित शिक्षण में अध्यापक को न तो यह पता चल पाता है कि उसने व्याख्यान में किस स्थान पर क्या त्रुटि की है और न ही वह छात्रों को सक्रिय रख सकता है।

७. परीक्षा परिणाम के प्रतिशत को बढ़ाना – अभिक्रमित अध्ययन परम्परित शिक्षा प्रणाली की भांति ३३ प्रतिशत परीक्षा परिणाम से पूर्णतया असहमत है तथा इसकी यह मान्यता है कि शत-प्रतिशत नहीं तो कम से कम ९० प्रतिशत परीक्षा परिणाम तो रहना ही चाहिये। जो अभिक्रमित सामग्री ९० प्रतिशत का परीक्षा परिणाम देने में असमर्थ होती है उसको उस समय तक नहीं अपनाया जाता है जब तक कि वह उक्त आवश्यकता की पूर्ति करने में सक्षम न हो।

अभिक्रमित अध्ययन की उपर्युक्त विशेषताओं को दृष्टिगत रखकर और स्किनर के बताये मार्ग का अनुसरण करते हुए अभिक्रमित अध्ययन सामग्री का निर्माण करने वालों को निम्नांकित नियमों का पालन करना पड़ता है :–

अभिक्रमित अध्ययन सामग्री के निर्माण हेतु आवश्यक नियम

(१) प्रत्येक उत्तर की तुरन्त पुष्टि करनी चाहिये।

(२) सीखने को प्रभावी बनाने की दृष्टि से विधिवत पुनर्बलित एवं परिलक्षित उत्तर से युक्त व्यवस्था करनी चाहिये।

(३) सीखने की क्रिया में त्रुटियाँ करने का बुरा प्रभाव पड़ता है, अतः अभिक्रमित सामग्री में त्रुटियाँ करने की गुंजाइश नहीं रखनी चाहिये।

(४) शृंखलाबद्ध छोटे पदों से युक्त विषय-वस्तु की सहायता से ही सीखने की क्रिया में प्रगति करनी चाहिये।

(५) अभिक्रमित सामग्री में प्रेरणाजनक संकेतों का उपयोग शनैः-शनैः समाप्त कर देना चाहिये।

(६) छात्र के परिलक्षित व्यवहार को नियंत्रित करना चाहिये।

(७) संबोध (कन्सेप्ट) के निर्माण हेतु विस्तृत विवेचना करने के (डिस्क्रिमिनेशन) प्रशिक्षण देने की व्यवस्था करनी चाहिये।

(८) अभिक्रमित सामग्री में ऐसी व्यवस्था अवश्य होनी चाहिये कि शिक्षार्थी को स्वयं लिखने के लिए ही बाध्य होना पड़े।

उक्त नियमों का पालन करते हुए जिस अभिक्रमित सामग्री का निर्माण किया जाता है उसे उपयुक्त तभी कहा जा सकता है जब कि वह निम्नांकित परिस्थितियों में से होकर गुजर चुके :–

अभिक्रमित अध्ययन सामग्री के निर्माण की स्थितियाँ

१. **विषय-विशेषज्ञ की जाँच** – अभिक्रमित सामग्री का निर्माण कर विषय-विशेषज्ञ से उसकी जाँच कराई जाती है। विषय की असम्बद्धता अथवा अनुपयुक्तता आदि दोषों से इस सामग्री को दोष रहित बनाने के लिये ऐसा करना अनिवार्य होता है।

२. **व्यक्तिगत जाँच** – अभिक्रमित सामग्री निर्माण के उपरान्त उसकी ८–१० छात्रों पर बारी-बारी से व्यक्तिगत जाँच की जाती है। इस जाँच के समय लेखक लगातार छात्र के साथ ही रहता है और उसकी प्रत्येक गतिविधि अथवा इस सामग्री के प्रति उसकी प्रतिक्रिया का सूक्ष्म अध्ययन कर उसे लिखता रहता है। जिन-जिन स्थलों पर छात्र को कठिनाई होती है उसका कारण ढूंढकर तत्काल उसका समाधान करता है। इस जांच के परिणामों के आधार पर अभिक्रमित सामग्री में तदनुकूल संशोधन कर दिया जाता है।

३. **प्रोग्राम सम्पादक द्वारा जाँच** – प्रोग्रामिक नियमों के संदर्भ में अभिक्रमित सामग्री में ऐसे दोष रह जाते हैं जिनका न तो लेखक को ध्यान रहता है और न ही व्यक्तिगत जाँच के समय पता चल सकता है। इन दोषों से इस सामग्री को मुक्त कराना आवश्यक होता है। इस लक्ष्य की पूर्ति हेतु इसे किसी प्रोग्राम सम्पादक द्वारा बताये गये दोषों को दूर कर अभिक्रमित सामग्री में संशोधन कर दिया जाता है।

४. **लेखक द्वारा जाँच** – कुछ दोष इस प्रकार के होते हैं जिनका ज्ञान प्रोग्राम सम्पादक को भी नहीं हो सकता। ये दोष लेखन शैली से सम्बन्धित हैं। इन दोषों से अभिक्रमित सामग्री को मुक्त कराने की दृष्टि से इसे ऐसे व्यक्तियों को दिखाने की आवश्यकता होती है जिनको लेख अथवा पुस्तक आदि लिखने का पर्याप्त अनुभव होता है। लेखन सामग्री से सम्बन्धित दोषों को दूर कर अभिक्रमित सामग्री को पुनः संशोधित करना पड़ता है।

५. **भाषा विशेषज्ञ द्वारा जाँच** – उपर्युक्त जाँच करने वाला व्यक्ति यदि भाषा विशेषज्ञ न हो तो अभिक्रमित सामग्री की ऐसे व्यक्ति द्वारा जाँच करानी चाहिए जो भाषा विशेषज्ञ हो। इस जाँच से भाषा सम्बन्धी दोषों से यह सामग्री मुक्त हो सकेगी।

६. **कला विशेषज्ञ द्वारा जाँच** – यदि किसी अभिक्रमित सामग्री में चित्रों का उपयोग किया गया हो तो उसकी जाँच कला विशेषज्ञ द्वारा करानी चाहिए जिससे इस प्रकार के दोषों को निकाला जा सके।

७. **सामूहिक जाँच** – उपर्युक्त सभी दोषों को निकालने के उपरान्त अभिक्रमित सामग्री की पर्याप्त मात्रा में चक्रांकित प्रतियां तैयार कराई जाती हैं। अब इसकी जाँच सामूहिक रूप से की जाती है। कक्षा के सभी छात्रों को चक्रांकित प्रतियां वितरित कर दी जाती हैं, इस प्रकार लगभग पांच-सौ या एक हजार छात्रों पर भी यह जाँच करनी चाहिए। इस जांच के आधार पर इस सामग्री में कुछ दोष निकल सकते हैं जिनको दूर करना अनिवार्य होता है।

८. **छपाई कार्य** – जाँच के उपर्युक्त व्यवस्थित क्रम से निकलने पर अभिक्रमित सामग्री में निस्सन्देह निखार आ जाता है और तब इसे विशाल क्षेत्र में प्रयुक्त किये जाने की दृष्टि से छपवा लिया जाता है।

ऐसी निखरी हुई अभिक्रमित सामग्री की विशेषता में किसी भी प्रकार की शंका के लिए कोई स्थान नहीं रह जाता है। अब इसकी उपादेयता में भी वृद्धि हो जाती है। कसौटियों पर खरी उतरी हुई ऐसी अभिक्रमित सामग्री का उपयोग निम्न प्रकार से किया जा सकता है –

अभिक्रमित अध्ययन सामग्री की उपादेयता –

१. अध्यापक के कार्यभार में कमी – वर्तमान परिस्थितियों में अध्यापकों को ६-७ कालांश पढ़ाना पड़ता है। इन सभी कालांशों में समान रूप से पढ़ाते रहना उसके लिए यदि असम्भव नहीं हो तो कठिन अवश्य है। इस कठिनाई का हल अभिक्रमित सामग्री में निहित है। यदि विभिन्न विषयों में भिन्न-भिन्न कक्षाओं के पाठ्यक्रमों के आधार पर निर्मित पर्याप्त अभिक्रमित सामग्री सभी शालाओं को उपलब्ध करा दी जाय तो अध्यापक दो या तीन कालांशों में इस सामग्री को बालकों में वितरण कर सकते हैं। ऐसा करने से उनको कुछ विश्राम करने का अवसर मिलेगा तथा साथ ही छात्रों को भी एक नवीन वातावरण मिलेगा। दोनों ही बातें ऐसी हैं जिनका शिक्षक और छात्रों पर अवश्य अच्छा प्रभाव पड़ेगा।

२. कक्षानुशासन को बनाये रखना – अनुशासित जीवन व्यतीत कर सकने की आदत का बालकों में निर्माण हो सके इस दृष्टि से इस बात की आवश्यकता है कि कक्षाओं में लगातार उनको किसी न किसी प्रकार कार्य में व्यस्त रखा जाय किन्तु ऐसा हो नहीं पाता। हमारी कक्षाओं में सभी बौद्धिक स्तरों वाले छात्र होते हैं। दूसरे शब्दों में हम यह कह सकते हैं कि हमारी कक्षाओं में कुछ छात्र ऐसे होते हैं जो बताई गई बात को शीघ्र ही समझ जाते हैं, कुछ ऐसे होते हैं जिनको सीखने में समय लगता है तथा शेष ऐसे भी होते हैं जिनको वर्त्तमान स्थितियों में कुछ सिखाना अत्यन्त कठिन होता है। ऐसी विषम परिस्थितियों में शीघ्रता से समझने वाले छात्र अधिक समय तक निष्क्रिय बैठे रहते हैं। 'खाली दिमाग शैतान का घर' वाली कहावत के अनुसार ये छात्र कुछ न कुछ उत्पात करना आरम्भ कर देते हैं। ठीक भी है, बालकों के लिए खाली बैठे रहना कठिन होता है। इन बालकों को यदि अभिक्रमित सामग्री दे दी जाय तो इन्हें व्यस्त रख कर कक्षानुशासन को बिगड़ने से रोका जा सकता है।

३. अनुपस्थित अध्यापक की कक्षा व्यवस्था करना – हमारी शालाओ में अनुपस्थित अध्यापक की कक्षा व्यवस्था करने की भी एक समस्या है। इस समस्या के समाधान करने की भी एक समस्या है। इस समस्या के समाधान हेतु अध्यापकों को मिलने वाले एक या दो खाली कालांशों का उपयोग कर लिया जाता है। इससे एक ओर तो अध्यापक को मिली हुई सुविधा से वंचित कर दिया जाता है तथा दूसरी ओर छात्रों को भी कक्षा की चारदीवारी में निष्क्रिय बैठे रहने को बाध्य कर शाला के प्रति उनकी विरोधी भावनाओं को विकसित होने का अवसर प्रदान कर दिया जाता है। ऐसी स्थिति में अभिक्रमित सामग्री कितनी उपयोगी हो सकती है इसे बताने की आवश्यकता नहीं है।

४. छात्रों के पिछड़ेपन को दूर करना – बीमारी अथवा अन्य कारणों से कक्षा में कुछ छात्र अनुपस्थित रहते ही हैं। इन छात्रों की अनुपस्थिति की अवहेलना कर अध्यापक अपने पढ़ाने के क्रम को चालू रखते हैं। कई दिनों तक अनुपस्थित रहने वाले छात्र उक्त कारणवश पढ़ाई में पिछड़ जाते हैं और अन्य साथियों के समक्ष आने में उनको कठिनाई का सामना करना पड़ता है। ऐसे छात्रों को यदि उनकी अनुपस्थिति में पढ़ाये गये पाठों पर बनाई गई अभिक्रमित सामग्री दे दी जाय तो इसकी मदद से उनकी कठिनाई को दूर किया जा सकता है।

५. विशेष ज्ञान की सुविधा प्रदान करने में – शिक्षा आयोग ने इस बात की अभिशंसा की है कि छात्रों को कुछ विशेष ज्ञान देने की भी शालाओं में व्यवस्था की जानी चाहिए। बहुत से छात्रों को यदि विशेष ज्ञान की सुविधा प्रदान की जाय तो इससे वे अपना शैक्षिक स्तर सुधार सकेंगे। अभिक्रमित अध्ययन सामग्री इसमें विशेष रूप से सहायक सिद्ध हो सकती है।

६. छात्रों में स्वाध्याय की प्रवृत्ति का विकास करने में – हमारी शालाओं के छात्र नवीन ज्ञान की प्राप्ति में अध्यापकों पर पूर्णतया निर्भर रहते हैं। जो भाग्यशाली हैं वे पैसा खर्च कर इस प्रकार की अतिरिक्त सहायता प्राप्त कर लेते हैं किन्तु अधिकांश तो कक्षाध्यापन पर ही निर्भर रहते हैं। यदि उपर्युक्त अवसर नहीं मिल पाता है तो परीक्षा में उत्तीर्ण होने की दृष्टि से उनको नोट्स का सहारा लेना पड़ता है, ऐसी स्थिति में हमारे छात्र किस सीमा तक स्वाध्यायी बन सकते हैं इस पर विचार करने की आवश्यकता है। यदि प्रारंभिक कक्षाओं से उच्च कक्षाओं तक अभिक्रमित अध्ययन सामग्री का बालकों से निरन्तर उपयोग कराया जाय तो ऐसी स्थिति में निःसन्देह वे स्वाध्यायी बन सकते हैं। इस समय देश को भी स्वाध्यायी व्यक्तियों की ही आवश्यकता है क्योंकि ऐसे व्यक्ति ही अपनी मौलिक रचनाओं और अन्वेषणों के रूप में देश का महान हित कर सकते हैं।

७. एक अध्यापकीय शालाओं में – हमारे देश में ऐसी शालाओं की पर्याप्त संख्या है। इन शालाओं के अध्यापकों एवं विद्यार्थियों को समान रूप से अभिक्रमित अध्ययन सामग्री की मदद से लाभान्वित किया जा सकता है।

८. पत्राचार शिक्षण में – इस प्रकार की व्यवस्था में इस सामग्री का उपयोग अत्यधिक हो सकता है। अभिक्रमित अध्ययन की सामग्री में एक अच्छे अध्यापक के सारे गुण विद्यमान होते हैं। वह केवल मात्र एक पुस्तक न होकर एक अच्छा शिक्षक भी होती है, अतः उसको पुस्तक के समकक्ष समझना भूल होगी। इस व्यवस्था में प्रचलित लिखित पाठों के स्थान पर यदि अभिक्रमित अध्ययन सामग्री प्रत्येक शिक्षार्थी को उपलब्ध कराई जाय तो सम्भवतः इस क्षेत्र में आशातीत लाभ उठाया जा सकता है।

इस प्रकार की अभिक्रमित अध्ययन सामग्री का उपयोग शिक्षा समुन्नयन कार्यक्रम के महत्वपूर्ण अंग के रूप में किया जा सकता है। हमारे देश की वर्तमान अनेक शिक्षा समस्याओं जैसे देशवासियों को साक्षर करना, अनिवार्य शिक्षा को लागू करना और प्रौढ़ शिक्षा आदि के समाधान में इस सामग्री का उपयोग कर अत्यधिक लाभ उठाया जा सकता है। यह अध्ययन विधि प्राथमिक, माध्यमिक एवं विश्वविद्यालयी शिक्षा आदि सभी स्तरों पर सरलता से अपनाई जा

सकती है। पाश्चात्य देशों में इसका प्रचलन अधिकाधिक किया जाने लगा है। इस विधि का उपयोग सब विषयों में समान रूप से किया जा सकता है। शिक्षा के क्षेत्र के अतिरिक्त स्वास्थ्य सेवा, सुरक्षा-सेना और विभिन्न उद्योगों आदि में भी प्रशिक्षणार्थियों को प्रशिक्षित करने में इसका उपयोग किया जाता है।

अब प्रश्न यह उठता है कि इस अध्ययन की विधि की उपादेयता से प्रभावित होकर हम इससे किस प्रकार लाभ उठा सकते हैं? क्या वर्तमान समय में हमारे पास प्रचुर मात्रा में अभिक्रमित अध्ययन सामग्री उपलब्ध है? इस प्रश्न के उत्तर में केवल इतना ही कहा जा सकता है कि वर्त्तमान में हमारे देश की शिक्षा के अनुरूप निर्मित अभिक्रमित अध्ययन सामग्री का निर्माण इतना नहीं हुआ है कि सभी शिक्षा स्तरों पर इसका उपयोग आरम्भ किया जा सके। पर इस स्थिति में हमें घबराने की आवश्यकता नहीं है। इस सामग्री के अभाव में भी यदि इस विधि की कुछ निम्नांकित प्रमुख बातों को हम हमारे दिन प्रतिदिन के कार्यक्रमों में अपनाना आरम्भ कर दें तो भी शिक्षा को प्रभावी बनाया जा सकता है।

अभिक्रमित अध्ययन के सिद्धान्तों का कक्षाध्यापन में उपयोग :-

१. स्पष्ट लक्ष्य निर्धारित करना – प्रत्येक अध्यापक को चाहिए कि वह छात्रों को जो कुछ पढ़ाना चाहता है उसके लक्ष्य निर्धारित करे। ये लक्ष्य इतने स्पष्ट होने चाहिए कि इनको पढ़ने वाले किसी भी व्यक्ति को किसी भी प्रकार का भ्रम न हो और जिनका सभी स्थितियों में एक ही अर्थ निकलता हो।

छात्रों को संज्ञा की जानकारी देना और दी गई सूची में से संज्ञा का बोध कराने वाले शब्दों को छाँट सकना इन दोनों लक्ष्यों में अन्तर स्पष्ट दिखाई देता है। प्रथम प्रकार का लक्ष्य ऐसा है जिसमें संज्ञा की परिभाषा, संज्ञा का प्रयोग और संज्ञा के प्रकारों आदि कई बातों का समावेश किया जा सकता है किन्तु दूसरे प्रकार के लक्ष्य में इन सब बातों को सम्मिलित नहीं किया जा सकता। दूसरी प्रकार के लक्ष्य के आधार पर ही इस बात का मूल्यांकन किया जा सकता है कि विद्यार्थियों में वांछित व्यवहार परिवर्तन हुआ या नहीं।

प्रत्येक पद के स्पष्टीकरण हेतु जिन चित्रों, उदाहरणों आदि की आवश्यकता हो उनको भी लिख लेना चाहिए। इस प्रकार की बनाई गई प्रवाह सारणी की मदद से अध्यापक को पढ़ाने में सुविधा रहेगी और साथ ही वह अपने अध्यापन को अधिक प्रभावी बना सकेगा।

२. प्रश्नों की रचना करना – यदि अध्यापक विभिन्न-बिन्दुओं से सम्बन्धित विभिन्न प्रकार के प्रश्नों की रचना कर इन प्रश्नों को पाठ के अन्त में छात्रों से हल कराना आरम्भ कर दे तो ऐसा करने से विषयवस्तु का स्पष्टीकरण हो जायगा।

३. परीक्षा परिणामों की शीघ्र जानकारी कराना – पढ़ने में छात्रों की रुचि को बनाये रखने की दृष्टि से प्रत्येक अध्यापक को परीक्षाओं के परिणामों की जानकारी बालकों को शीघ्र ही करा देनी चाहिए। इसमें विलम्ब नहीं करना चाहिए।

४. व्याख्यान विधि के स्थान पर प्रश्नोत्तर विधि अपनाना – ऐसा करने से अध्यापक स्वयं कम सक्रिय रहकर छात्रों को सक्रिय रखने में सफल हो सकेगा। इससे एक लाभ यह होगा कि छात्रों में उनकी शंकाओं का समाधान करने के लिए प्रश्न पूछने की आदत का निर्माण होगा। इस प्रयास द्वारा उनकी जिज्ञासा प्रवृत्ति को विकसित करने में भी मदद मिलेगी।

५. गृह-कार्य सुधार करना – निबंधात्मक उत्तर वाले प्रश्नों के स्थान पर यदि रिक्त स्थानों से युक्त अभ्यास मालाओं का उपयोग किया जाने लगे तो यह अधिक उपयुक्त होगा। छात्रों को ऐसे गृहकार्य की पूर्ति में कोई अड़चन नहीं होगी और साथ ही अध्यापकों को भी इस कार्य की जाँच में अधिक कठिनाई नहीं होगी।

इस प्रकार अभिक्रमित अध्ययन सामग्री के अभाव में भी इस विधि के सिद्धान्तों का उपर्युक्त प्रकार से दिन-प्रतिदिन के कक्षाध्यापन में उपयोग कर लाभ उठाया जा सकता है। इस विधि की उपादेयता का पता लगाये बिना ही कुछ व्यक्ति इसके प्रति भ्रान्तियों का प्रचार करते हैं जो निम्न प्रकार से है।

अभिक्रमित अध्ययन विषयक कतिपय भ्रान्तियाँ

१. अध्यापकों की छँटनी – कुछ लोगों का ऐसा विचार है कि अभिक्रमित अध्ययन की विधि को अपनाते समय अध्यापकों की आवश्यकता नहीं होती। अतः अध्यापकों की वर्तमान संख्या में कमी कर दी जायेगी। इस प्रकार की धारणा सर्वथा निर्मूल है। अभिक्रमित अध्ययन का लक्ष्य अध्यापकों को अधिकाधिक सम्पन्न बनाना है तथा उनके कार्य को सहायता प्रदान करना है। अभिक्रमित अध्ययन सामग्री का उपयोग अध्यापकों की उपस्थिति में अत्यधिक लाभप्रद होता है। अतः इस विधि के उपयोग से अध्यापकों की छंटनी होने के स्थान पर अध्यापकों को छात्रों की अन्यान्य गतिविधियों की ओर ध्यान देने का अवसर मिलेगा।

२. खर्चीलापन – अभिक्रमित अध्ययन सामग्री के निर्माण की विभिन्न स्थितियों को देख कर कुछ व्यक्ति यह कहने लगते हैं कि भारत जैसे देश के लिए यह विधि अत्यधिक खर्चीली है। सरसरी दृष्टि से देखने पर यह बात सत्य सी प्रतीत होती है किन्तु गहराई से इसका अध्ययन करने पर यह धारणा भी निर्मूल सिद्ध लगेगी। अभिक्रमित अध्ययन सामग्री एक उत्तम अध्यापक का कार्य करती है। हमारे देश की वर्तमान स्थिति को देखते हुए क्या प्रत्येक छात्र के लिए हम उत्तम अध्यापक की सुविधाएँ उपलब्ध करा सकते हैं? स्पष्ट है कि इस प्रकार की सुविधाओं को प्रत्येक छात्र के लिए उपलब्ध कराना लगभग असंभव सा है। ऐसी विषम स्थिति में अभिक्रमित अध्ययन सामग्री के रूप में यह सुविधा हमारे देश के प्रत्येक बालक को उपलब्ध कराना आरम्भ कर सकें तो इस सामग्री के निर्माण पर किया गया खर्च तुलनात्मक दृष्टि से नगण्य होगा। टेलीविजन द्वारा शिक्षा देना अथवा शिक्षण में श्रव्य-दृश्य सामग्री का उपयोग करना जितना खर्चीला कार्य हो सकता है उसकी तुलना में इस विधि पर किया गया खर्च निश्चित रूप से कम ही होगा।

३. टीचिंग मशीन की आवश्यकता – कुछ लोगों की ऐसी धारणा है कि अभिक्रमित

अध्ययन की विधि के उपयोग में टीचिंग मशीन की आवश्यकता होती है। यह धारणा भी गलत है। अभिक्रमित अध्ययन सामग्री को पुस्तक और चलचित्र पट्टिका के रूप में भी प्रयुक्त किया जाता है।

४. भावात्मक सम्बन्धों का अभाव – एक विचार यह भी है कि अभिक्रमित अध्ययन सामग्री के उपयोग से अध्यापक और बालकों में जो भावात्मक सम्बन्ध बनते हैं वे नहीं बन पायेंगे। ऐसा सोचना ठीक नहीं है। अभिक्रमित अध्ययन विधि अध्यापक के कार्य को गति प्रदान करती है। अध्यापक की उपस्थिति में ही इस सामग्री का वितरण छात्रों में किया जाता है और अध्यापक के मार्ग-दर्शन में बालक इस सामग्री से अध्ययन प्राप्त करते हैं। इसका उपयोग अध्यापक और छात्र के बीच की दूरी को कम करता है। दोनों को पास लाकर उनके पारस्परिक सम्बन्धों को शान्ति प्रदान करना बालकों की भावात्मक अभिव्यक्ति के विकास में सहायता प्रदान करना नहीं होता है तो फिर क्या होता है? अतः इस प्रकार की धारणा के लिए इस विधि में कोई स्थान नहीं है।

अभिक्रमित अध्ययन सामग्री को श्रव्य-दृश्य सामग्री कहना, परीक्षा अथवा टैस्ट की सामग्री कहना, शिक्षा प्राप्ति में रामबाण कहना और अध्यापकों की कमी की समस्या का पूर्ण हल बताना आदि बातें भी उतनी ही भ्रामक और निराधार हैं जितनी कि उपर्युक्त बातें हैं।

उक्त सब बिन्दुओं के आधार पर आवश्यकता इस बात की है कि :–

(१) शिक्षा विभाग की ओर से अधिकाधिक संख्या में अध्यापकों को अभिक्रमित अध्ययन में प्रशिक्षण देने की व्यवस्था की जाय।

(२) प्रशिक्षित अध्यापकों द्वारा अभिक्रमित अध्ययन सामग्री का अधिकाधिक निर्माण कराया जाय।

(३) निर्मित अभिक्रमित अध्ययन सामग्री में जांच के आधार पर संशोधन करने के उपरान्त विशाल क्षेत्र में अपनाने की दृष्टि से उसको छपवाया जाय।

(४) जब तक आवश्यक मात्रा में अभिक्रमित अध्ययन सामग्री उपलब्ध न हो सके उस समय तक इस विधि के सिद्धान्त को अपना कर कक्षाध्यापन में सुधार किया जाय।

(५) अभिक्रमित अध्ययन की विधि को हमारी वर्तमान परिस्थितियों में कसौटी पर कसा जाय।

Summary

PROGRAMMED LEARNING : A NEW DIMENSION IN EDUCATION

Bhagirath Singh Shekhawat

Learning is of paramount importance in human life. The medium to impart it is generally a human being—a teacher, but a well planned use of programmed learning equipment, including books, movie-films, gramophone, tape-recorders, television or teaching machine, may work better than a teacher.

A comparative study of different teaching methods would reveal that the best method is that in which the content is analysed in small units and the pupil proceeds to learn the second unit only after he has assimilated the first unit. This is the spirit of Programmed Learning which is based on the experiences of thousands of years of teaching, and it has been reshaped in the 20th century by Siddney L. Presse, B. F. Skinner, James G. Holland etc. Presse invented the first teaching machine.

Experiments proved that confirmation of results of efforts to learn give impetus to learners and by intermittent use of reinforcement knowledge learnt is stabilised. The knowledge-content is divided into small units which are presented in sequence with the pupils' co-operation, and pacing is done according to their capacity. Result of efforts is confirmed intermittently and immediately. Opportunity for correction of errors is given and thus the results of students' achievements are highly elevated.

The programmed learning lessons when prepared should be examined by a specialist and after a trial made on 8—10 students, it is corrected, keeping in view the students' difficulties. It should then be examined by the programme editor, the author, the language expert, an artist (if it has used pictures etc.) and then a trial be made on 500 to 1000 students. When the matter is improved by all this process, it is ready for use on large scale in printed form.

Programmed learning matter reduces the teacher's burden of work and saves his time which may be utilised in more useful work. Pupils are kept very busy and the problem of indiscipline does not arise, even if the teacher is absent. It remedies the pupils academic backwardness, gives him opportunity for self study of advanced matter also according to his individual capacity. It can also be used effectively in single teacher schools and also in correspondence courses.

For projects like compulsory education, adult education, school improvement etc., Programmed Learning may be equally useful from primary level to university classes and in all the subjects. It may also be useful in health education, education of defence personnel, in industrial education and similar other fields.

For using in classroom situation, Programmed Learning will be most successful if the teacher first of all determines the objectives unambiguously and he also selects some questions to be put to students after the PL lesson. The art of questioning should be used extensively and it should substitute lecturing as far as possible. Students' home task should be carefully corrected and followed up, and the results of all the efforts should be made known to the pupils immediately.

The apprehensions that PL will make teachers redundant who may be retrenched, or that this system is very expensive, or that the human relationship between the teacher and pupils will vanish are all incorrect. In order to make PL popular, largest possible number of teachers should be given training, programmes be got prepared and printed in all the subjects and for all the classes, and should be tried and, till printed programmes are made available, its principles be incorporated to improve teaching in class-room.

[V B L M]

Teacher Behaviour and its influence Upon Students

Z. M. Quraishi
and
Mohd. Husain

A TEACHER in the classroom, with certain powers and authority along with responsibility, endeavours to modify and shape the behaviour of his pupils in some particular directions or goals, predetermined by the society at large. The pupils are in subordinate position in the classroom, whereas the teacher is the supreme power to exercise his authority. He commands, the students comply. He presents a model and students imitate. He is in a central position in the frame-work of school programme.

Apart from the teacher's knowledge of subject matter and his understanding of the students, the most important factor in modifying students' behaviour in desired direction is how he behaves in the classroom, in what way he imparts knowledge to students ? In other words what is the verbal influence pattern of the teacher in the classroom ?

Often teachers think that what they say in the class is in consonance with their intentions. But this is not true. On the contrary there is a big gap between the teacher's intent and action. When their own tapes are replayed in their presence teachers are heard saying, "But I did not mean it", "But I meant...", "I was really trying to get the pupils to talk more", or "I think that I wanted them to answer that question", or "I was trying to praise them". These are some of the protests which a teacher will make about his intents and actions. Why does it happen ? Because the teacher is not aware of the influence of his behaviour upon the students. In most cases the teacher may perceive that his behaviour is desirable, but in fact it may not be so. Secondly as a result of passing of the time the teacher becomes used to a particular type of rigid behaviour and may not be conscious of its influence upon the pupils. Hence there is a need of making the teacher aware of this gap between his intents and actions, and the influence that is created upon the pupils by his behaviour.

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Teacher Behaviour

The verbal behaviour of a teacher creates a particular type of atmosphere in the classroom. It may be restricting or extending the freedom of action of students. The teachers can be classified into two categories on the basis of the degree and amount of freedom they allow to their pupils which determines the type of climate in the class. Various people have used various types of terms to describe the behaviour of these two types of teachers. A brief description of these two types of behaviour patterns of teachers and their influence upon the pupils is given in the following paragraphs.

Direct Behaviour

If a teacher restricts the freedom of action of the students by using a particular type of words or statements or by exercising his authority, he is known as direct teacher. Flanders[7] used the word "Direct" to describe such teachers. Anderson[2] calls them "Dominative teachers", and Lippitt and White[11] term them "Authoritarian" type of teachers. Withall[14] describes the behaviour of such teachers as "Teacher-Centred".

Characteristics of the Behaviour of a Direct Teacher

A direct teacher generally behaves in the classroom in the following manner :

1. He restricts the student

participation in teaching learning process.

2. He expresses his own views through lectures most of the time.

3. He uses directions, commands, and orders to get the work done from the students.

4. He criticizes student behaviour to make them behave in an accepted way.

5. He makes extreme self-references and justifies his own authority.

6. He does not involve students in planning the teaching learning activities.

7. He does not make use of social skills of communication that are involved in accepting, clarifying and making use of student ideas.

8. He cannot shift his style of interaction during teaching process.

9. He has fewer ways of working with the students.

10. He can provide only limited number of roles to the students in teaching learning process.

11. He tries to maintain ornamental discipline in the classroom.

Associated Attitudes of A Direct Teacher

Behaving in the above mentioned ways for a number of years a direct teacher becomes used to authoritarian type of behaviour and develops certain attitudes toward students in relation to his authority. These attitudes are deep-rooted which govern his actions while dealing with the students. As a result he is unable to visualize the effects of his behaviour upon the students.

Cogan[6] on the basis of his study has listed several attitudes associated with direct and indirect teachers. He mentions the attitudes of a direct teacher as follows :

1. Anti-social : He does not have faith in co-operative and social activities.

2. Surly : He is arrogant and behaves in uncivilized manners.

3. Spiteful : He hates the students considering inferior creatures. He has grudge and ill-will toward them.

4. Dour : He is obstinate in manners and sticks to his own decisions.

5. Hostile : He does not have any sympathy towards students and shows enmity.

6. Impatient : He loses patience and mood on the slightest undesirable event in the classroom.

7. Self-centred : He thinks about himself and his own activities.

8. Self-assertive : He insists upon his own decisions. He shows his own importance. He always tries to defend himself.

9. Aloof : He keeps himself away from the students.

Indirect Behaviour

When a teacher extends freedom of action to his students, according to Flanders[7] he is an "Indirect teacher". Anderson[2] prefers to call him as an "Integrative teacher", while Lippitt and White[11] identify him as "Democratic teacher". Withall[14] terms such teachers as "Student-Centred". However, all these terms used by different authors convey almost the same meaning.

Characteristics of the Behaviour of an indirect teacher

1. He encourages and supports student participation in learning activities.

2. He speaks less in the class, giving more chances to student expressions.

3. He involves students in planning of teaching learning processes.

4. He tries to understand the difficulties of the students even when they are not explicitely expressed by the students.

5. He asks more questions to stimulate student participation.

6. He praises and encourages students' actions with the intention of initiating further participation.

7. He makes use of social skills of communication using the ideas of the students (1).

8. He accepts feelings of students in a non-threatening manner.

9. He modifies or alters the learning programmes according to the demands and requirements of the students.

10. He can shift the style of interaction during the classroom teaching.

11. He creates lively and stimulating atmosphere in the classroom.

12. He uses humour (not at the cost of any student) to release the tension in the class.

Associated attitudes of an indirect teacher

An integrative teacher while behaving in a democratic way with his students forms certain personality traits which determine his future behaviour and is reflected in his attitudes toward students. The associated attitudes of an integrative or indirect teacher as viewed by the students in the study conducted by Cogan[6] were found to be as such :

1. Outgoing : He is easily available to the students and mixes with them.

2. Good natured : He is polite and well-behaved with his students.

3. Friendly : He does not believe in formality and in keeping distance with the students.

4. Cheerful : He bcomes happy and cheerful when he sees his students inside or outside the class.

5. Trustful : He relies upon his students and does not doubt their integrity.

6. Patient : Even the most undesirable events do not disturb his peace of mind.

7. Self-effacing : He corrects himself whenever necessary, in the presence of his students.

8. Self-submissive : He submits

to the demands, desires, and opinions of the students.

9. Responsive: He is always inclined to respond to the students' queries and questions.

Influence upon the students

There are few researches indicating the impact of direct and indirect behaviour of the teacher on the classroom climate, the students, their attitudes and finally to their achievement. On the basis of the studies which have been made in this field the following observations are made.

If we observe the classroom of a direct teacher we find that most of the time the students remain passive listeners, staring in vacuum, sitting like statues and the words of the teacher being pelted over their heads like hails on the flowers. They feel restless and uneasy. They want to react and ask questions to clarify their doubts. But they are not provided this opportunity. They feel bored and tired, impatiently waiting for the bell to go, and the withdrawal of the teacher from the class.

On the contrary, in the class of an indirect teacher, students are found to be actively participating in the teaching learning process. They show initiative in the discussion. Their faces are cheerful. They enjoy learning. For them the teacher is not a dreadful devil but a friend, philosopher and guide. They are attracted toward him and pay attention to what he says and do what he asks for.

Such radical differences in the atmosphere of classroom can easily be observed by any one. The dominative or integrative pattern of behaviour of the teacher sets a pattern for the behaviour of students, which spreads and persists throughout the classroom. Anderson et al (3,4,5) say that teacher's tendency spreads among the pupils even when he is no longer in the classroom.

The attitudes that are formed by students toward a particular teacher, toward a particular subject, and toward the school are much more important than the temporary atmosphere of the classroom created by the dominative or integrative teacher. However, it is more likely that the students will have a negative attitude towards the direct teacher and a favourable attitude towards the indirect teacher. A study by Flanders[7] also confirms that students have unfavourable attitude towards direct teachers. The students of a direct teacher are afraid of him and as Anderson[2] puts it, "dominative contacts create more compliance and resistance to compliance among the students."

Considering the efficacy of the patterns of teacher behaviour to modify the pupils' behaviour, it was found by Flanders and Havumaki[9] that dominative teacher's influence was more persuasive in changing pupil opinion but that such shifts of opinions were not stable since inner resistance was so high. A study conducted at Provoh, Utah[13] confirms the same results.

Regarding the attitudes of students toward school work it can be said that the students of integrative teachers show more spontaneity and initiative, voluntary, social contributions in school work compared to students of dominative teachers. They take school work not as a burden on them, but feel pleasure in accomplishing it.

Perhaps the most striking influence of the pattern of teacher behaviour is that it gives rise to the development of certain personality traits and habits of the students. It can be put as a hypothesis that under the influence of a dominative teacher, the students will become submissive and dependent. The power of creative thinking, scientific analysis, and independent judgement will be suppressed. The students will not be able to develop self-confidence, and take independent decisions. They will always look to be in a state of doubt and ambiguity. Further they would develop habits of truency, lying and shirking from the work. They would form cliques and nurse grudge against the teacher and indulge in anti-social activities.

On the other hand the integrative teacher through his sustained democratic influence leaves a permanent mark on the students—a mark that remains the life time of the students. The students put into practice the ideals and principles taught by that teacher. They keep his actions or behaviour patterns as their future guidelines. Integrative teacher moulds and shapes students' personality in positive direction. Experiences show that such teachers develop free thinking among their students. They develop critical ability, reasoning power, and enable them to analyse things in their proper perspective. Students of such teachers have been found to be alert, responsible, confident and initiating. They are self-sufficient, independent, outspoken and social. They have interest in learning and have positive attitudes toward teachers, subjects and school. They respect the rights of their peers and behave in socially acceptable ways. They have leadership qualities and clear goals of learning to achieve.

A practical educationist and a layman will be rather more interested in knowing the influence of a direct and an indirect teacher upon the students at the cognitive level. The best evidence for them may be the significant difference in the level of achievement of the students who are taught either by direct teacher or indirect teacher. Fortunately there are quite a few research studies which proved that largely integra-

tive behaviour of the teacher is able to boost up the level of achievement of the students. A study conducted by Flanders[7] indicates that all types of students, learned more working with the more indirect teachers than with the more direct teachers.

Resume

The above discussion about the direct and indirect teacher behaviour makes it self-evident that in a democratic country like India dominative behaviour is highly undesirable and is repugnant to the democratic values and ideas which call for flexibility, creativity, ingenuity, sociability, recognition and respect of individual differences, scientific thinking and fullest growth of the individual. Domination is characterized by rigidity. It stifles differences, it is antagonistic to the concept of growth, it involves force or threats of force. It is antithesis of scientific attitude, it is resistance to change. A dominative teacher reflects his own failure, his feelings of insecurity, and self protection, his frustration and prejudices. It is a kind of dictatorship over the students.

Now there are two questions for our consideration. Is dominative behaviour undesirable under all circumstances? What can we do to the dominative teachers?

It is safe to answer the first question in negative, because there are certain situations where integrative behaviour may fail. Another reason is that it is difficult to label a teacher purely as a dominative or integrative. Only hypothesis which seems worth mentioning here is that largely integrative and at times flexible—dominative or integrative-is more suitable for the achievement of better learning outcomes.

The answer to the second question is that dominative teacher should first be aware of his actions, what he does in the classroom, and see the influence of his behaviour upon students' personality and achievement. Being conscious of the concepts of directness and indirectness the teacher may evaluate himself and avoid what is undesirable. This article has been written on the basis of the assumption which has been proved by Flanders[8] as well as Kirk[10] that the knowledge of the concepts of directness and indirectness enables the teacher toward more indirectness.

Another most effective and scientific way of modifying the behaviour of direct teacher is providing feedback by observing their classroom interaction with the help of Interaction Analysis Technique developed by Ned A. Flanders. The detailed description of the technique is out of the preview of this article.

In the end it can be suggested that teachers should introspect themselves and see in which category they can be put. For the inculcation of democratic values among the students which can be developed not by precepts but by practice, the teachers should try to adopt the characteristic behaviour of an integrative or democratic teacher to make them true and successful citizens of a democratic country.

सार-संक्षेप

अध्यापक का व्यवहार व उसका छात्रों पर प्रभाव

जेड. एम. कुरेशी एवं मो. हुसैन

कुछ अधिकारों और दायित्वों के साथ अध्यापक कक्षा में, अपने छात्रों के व्यवहारों को किन्हीं अभीष्ट दिशाओं में मोड़ देने की चेष्टा में रत रहता है। सामान्यतः स्कूल के ढाँचे में वह एक नमूना होता है जिसका अनुकरण छात्र करते हैं। विषयज्ञान तथा छात्रों से परिचय के सिवा कक्षा में उसके वाचिक व्यवहार और अध्यापनकौशल का प्रभावकारी प्रतिफलन छात्रों के व्यवहारों में दीख पड़ता है। सामान्यतः अध्यापक समझते हैं कि जो कुछ वे कक्षा में कहते हैं, लक्ष्यानुरूप ठीक ही कहते हैं, किन्तु प्रयोगों से सिद्ध हुआ है कि सदैव वैसा होता नहीं। वे कहना कुछ चाहते हैं और व्यवहार में कुछ और ही कह जाते हैं। आशय और व्यवहार का यह अन्तर भी छात्रों के आचरण को प्रभावित करता है।

कक्षा में अध्यापक का व्यवहार एक विशेष कक्षा-वातावरण का निर्माण करता है जिसके अन्तर्गत वह शिक्षण स्थितियाँ प्रस्तुत करता है। इस वातावरण तथा शिक्षण स्थितियों के प्रस्तुतीकरण के विचार से अध्यापकीय व्यवहार दो प्रकार का देखने में आता है। एक तो सर्वभक्षी व्यवहार या आधिकारिक व्यवहार जिसमें अध्यापक का वर्चस्व ही मुखर होता है और दूसरा सम्यक् व्यवहार या प्रजातांत्रिक व्यवहार जिसमें छात्रों को भी अध्ययन-कार्य में भागीदार बने रहने का मौका मिलता है। दोनों व्यवहारों के अपने-अपने ढंग के ऐसे प्रभाव होते हैं जो छात्रों में प्रतिफलित होते हैं। पहले व्यवहार का अध्यापक छात्रों के सामने अपना दंभपूर्ण, असामाजिक, उग्र, अधीर, स्वकेन्द्रित व निरपेक्ष व्यक्तित्व प्रस्तुत करके उनमें आतंक, परतंत्र भावना आदि भरने की चेष्टा करता है जो कभी-कभी विकर्षण और विरोध भावना में चरितार्थता पाती है। दूसरे प्रकार का व्यवहार छात्रों के सामने एक सदय, सहायक, मित्रतापूर्ण, विश्वस्त, धीर, सलाहकारी व्यक्तित्व प्रस्तुत करता है जिसके आश्रय से छात्र स्वावलंबन, मौलिकता, जिज्ञासा, स्वप्रयत्न आदि द्वारा अपने ढंग से विकसित होने का अवसर पाते हैं। अनुसंधानों और प्रयोगों से दोनों प्रकार के अध्यापन-व्यवहारों के इन भिन्न-भिन्न तथा परस्पर विरोधी प्रभावों का पता चला है।

अध्यापन-व्यवहार निश्चित रूप से छात्र में तदनुकूल व्यक्तिगत संस्कार और व्यवहार की आदतें पैदा करता है। कुंठाग्रस्त, दबे हुए व्यक्तित्व तथा असामाजिक संस्कारों के पनपने का अवसर आतंकवादी अध्यापन-व्यवहार में ही होता है; जबकि प्रजातांत्रिक व्यवहार में समाजोचित व्यवहार-बीजों का अंकुरण होता है। उपलब्धियों की दृष्टि से प्रजातांत्रिक अध्यापन-व्यवहार अधिक

श्रेयस्कर ठहरता है। भारत के प्रजातांत्रिक सामाजिक ढाँचे के लिए आतंकवादी अध्यापन-व्यवहार कभी उचित नहीं कहा जा सकता। अध्यापक को अपने ज्ञान आदि के साथ-साथ अपने कक्षा-व्यवहार का भी स्वमूल्यांकन करते रहना चाहिए और उसमें प्रजातांत्रिक तत्त्वों का अधिकाधिक समावेश करना चाहिए क्योंकि हम जिन प्रजातांत्रिक मूल्यों को छात्रों में चरितार्थ होते देखना चाहते हैं वे उपदेशों से नहीं बल्कि व्यवहार-सम्मत आचरण और अनुभवों से ही विकसित होंगे।

[पु० ला० तिवारी]

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सर्जनात्मक पठन

उमरावसिंह चौधरी

ज्ञान की अभूतपूर्व वेग से वृद्धि होने के कारण यह कहना अतिरंजित नहीं होगा कि हम "अज्ञानता-विस्फोट" (Ignorance Explosion) के युग में रह रहे हैं। प्रतिवर्ष लगभग डेढ़ करोड़ पृष्ठों की पठनीय सामग्री की वृद्धि होती जाती है। इस कारण पठन का महत्व नित्य-प्रति बढ़ता जा रहा है। जितना हम पठन करते हैं उतनी ही हमारी अनभिज्ञता उजागर होती जाती है। कहा तो यहाँ तक जाता है कि आज का कोई 'ग्रेजुएट' कल से यदि पठन बिलकुल बन्द कर दे तो संभवतः परसों वह "अण्डर-ग्रेजुएट" हो जावेगा। इस कथन का अभिप्राय यही है कि आज के बौद्धिक युग में निरंतर पठन अपरिहार्य है। निरन्तर एवं विमर्शपूर्ण पठन हमारे सभ्य और शिक्षित होने का प्रबल प्रमाण है। कदाचित् इसीलिए बेकन ने कहा था कि "पठन से मनुष्य पूर्ण बनता है"।

संभवतः, शिक्षा के क्षेत्र में सर्वाधिक

व्याख्याता,
शिक्षक महाविद्यालय,
इन्दौर (मध्यप्रदेश)

अध्ययन-अनुसंधान "पठन" पर ही हुए हैं। पठन के विभिन्न पहलुओं पर अभी तक लगभग चार हजार अनुसंधान हो चुके हैं। किन्तु चाल (१९६७) के अनुसार इन अनुसंधानों का पठन के अध्यापन पर कोई विशेष प्रभाव नहीं पड़ता। वस्तुतः, १९५५ में रुडोल्फ फ्लेश के प्रकाशन "जानी क्यों नहीं पठन कर पाता ?" (Why Johny can't read ?) ने अमरीकी जन-मानस का ध्यान पठन की ओर आकर्षित किया। यहाँ तक कि अभी-अभी पिछले दिनों अमरीकी शिक्षा कार्यालय ने फिर इस समस्या पर एक समिति गठित की है कि आखिर जानी क्यों पठन नहीं कर पाता ?

इमरसन भी पठन की इस बुनियादी समस्या से अभिभूत था। उसने चिन्ता व्यक्त की थी कि लोग व्यापक एवं विवेकपूर्ण ढंग से पठन क्यों नहीं करते ?

"Few know how to read. Women read to find a hero whom they can love: men for amusement; editors for something to crib; authors for something that supports their views; and hardly one reads comprehensively and wisely."

पठन "मुद्रित शब्दों की ओर भौंकना" मात्र नहीं अपितु एक ऐसी व्यापक एवं गतिशील प्रक्रिया है जिसमें विभिन्न मानसिक योग्यताएँ भाग लेती हैं। जान जे. डिबोअर (१९६७) के अनुसार पठन एक दूरदर्शी (Telescope) है जिसके द्वारा सुन्दर नक्षत्रों के दर्शन किए जा सकते हैं और वहाँ के जीवन की कल्पना भी। यह एक सूक्ष्मदर्शी (Microscope) भी है क्योंकि इसके द्वारा न केवल 'क्रोमोझोम्स' और 'एटम्स' का परीक्षण किया जा सकता है वरन् उन सूक्ष्म कणों की निश्चित जानकारी भी प्राप्त की जा सकती है जिन्हें उत्कृष्टतम लेन्स भी स्पष्ट नहीं दिखा सकते। पठन तो एक प्रकार की 'समय-मशीन' है जो भूतकाल से भेंट कराती है और भविष्य के द्वार खोलती है। तभी तो आदिम-मानव ने 'पठन' को 'जादू' नाम दिया था और वह बहुत कुछ अंशों में ठीक भी था।

हेरिस (१९६२), अर्थ (Meaning) को पठन का साध्य और भेदबोध (Discrimination) को उसका साधन मानता है। हार्डी (१९६२) श्रवण भेदबोध (Auditory Discrimination) और शुद्ध पहचान को पठन की आगामी प्रक्रियाओं का आधार मानता है। उसके मतानुसार वे आगामी प्रक्रियाएं हैं :-

(१) प्रक्रमण (Processing) जिसमें अनुवर्ती अंशों का शीघ्र प्रत्यक्षीकरण सम्मिलित है।

(२) संरूपण (Pattern making) जिसमें पठनाधीन वस्तु को सार्थकता की दृष्टि से भूत और वर्त्तमान व्यवहार से संबंधित करना होता है, तथा

(३) धारण (Retention) जिसमें पठित अंश स्मृति द्वारा संरक्षित किया जाता है।

ज्ञान के बढ़ते हुए क्षितिज के संदर्भ में पठन का तात्पर्य मात्र शब्द-पहचान, ध्वनिबोध, शब्दार्थ-ज्ञान अथवा धारणमात्र नहीं हो सकता। आज पठन के परम्परागत 'धारणात्मक' अर्थ में विस्तार की आवश्यकता है। इस 'प्रज्ञा-युग' (Intellectual Era) में तथ्यों एवं अभिसूचनाओं का 'स्टेम्प कलेक्शन' करके कोई बुद्धिजीवी होने का यश प्राप्त नहीं कर सकता। अस्तु, पठन के

अध्यापन का उद्देश्य भी व्यापक होता जा रहा है। अब अध्यापक युवा पाठकों में शब्द-ज्ञान के स्थान पर अन्तर्दृष्टि, स्मृति के स्थान पर चिन्तन, ज्ञान के स्थान पर कल्पना और संरक्षणशीलता के स्थान पर सृजनात्मकता विकसित करना चाहता है। वह पठनकर्त्ताओं को पठित तथ्यों एवं विचारों के संश्लेषण-विश्लेषण, निस्पन्दन-आसवन और विखण्डन-संगलन की ओर अग्रसर करता है। पठनकर्त्ता को अंध-सहमति की अपेक्षा प्रश्न करना चाहिए कि वास्तव में पठित वस्तु के लेखक का आशय क्या है ? उसे सोचना चाहिए कि पठित जानकारी के क्या-क्या अनुप्रयोग हो सकते हैं ? उसे चिन्तन करना चाहिए कि पठित तथ्यों के क्या संभावित परिणाम हो सकते हैं ? इस प्रकार सृजनात्मक पठन के प्रमुख आधार रीतिमुक्तता, पहलवृत्ति, कल्पना प्रवणता और वैचारिक साहसिकता ठहरते हैं।

शेक्सपीयर ने नया कुछ नहीं लिखा किन्तु अपने सर्जनात्मक पठन द्वारा प्राचीन ग्रीक आख्यानों को उसने ऐसा मौलिक मोड़ दिया, उनमें ऐसा अपूर्व रूपान्तर किया कि वह अमर हो गया। उसी प्रकार मैथिलीशरण गुप्त ने भी नया बहुत कम लिखा, किन्तु अपने सर्जनात्मक पठन द्वारा प्राचीन रामकाव्य को आधुनिक महाकाव्य 'साकेत' में ढाल दिया। यही तो उनके सर्जनशील पठनकर्त्ता होने का प्रमाण है।

जॉर्जिया विश्वविद्यालय के शिक्षा मनोविज्ञान विभाग के अध्यक्ष और सर्जनात्मक अनुसंधान के अग्रणी डॉ० ई० पॉल टॉरन्स (१९६९) ने सर्जनात्मक पठन के चार स्तर सुझाए हैं। यथा :-

(१) पठित वस्तु की कल्पनापूर्ण पुनर्प्रसूति (Reproducing imaginatively)

(२) पठित वस्तु का पल्लवन (Elaborating what is read)

(३) पठित वस्तु की पुनर्व्यवस्थिति और रूपान्तरण (Rearranging and Transforming what is read)

(४) पठित वस्तु से सुदूर जाना (Going beyond what is read)

सर्जनशील पठनकर्त्ता मूलतः एक चिन्तक होता है। वह सतह पर ही तैरता नहीं रहता बल्कि कल्पना के सहारे गहराई में जाकर विचारों के मोती निकालता है। वह विचारों के साथ खेलता है, उन पर अपनी प्रतिक्रियाएं व्यक्त करता है और आवश्यक होने पर उनमें समवाय खोजता है। डॉ. टॉरन्स के शब्दों में:-

"The creative reader must be open to his experiences; must reflect upon what he reads, discover relationships among ideas, react to new concepts, play with the possibility that the new idea might be correct and try to imagine what its consequences might be."

"सृजनात्मक पठन" विकसित करने के लिए ऐसे योजनाबद्ध और निर्देशित अनुभवों के आयोजन की आवश्यकता है जो छात्रों में अपेक्षाओं और प्रत्याशाओं को बढ़ा-चढ़ा सके। साथ ही, पठित वस्तु को रूपान्तरित करने, उसे नया मोड़ देने आदि की छात्रों में आदत भी विकसित कर सके। इस दिशा में पाठ्य-पुस्तकें अधिक उपयोगी एवं प्रभावी हो सकती हैं। यदि सृजनात्मक-शोध के परिणामों को उनमें विन्यस्त कर दिया जाए तो वे सृजनात्मक व्यवहार का स्रोत हो सकती हैं। इसीलिए लॉरी (१९६०) ने पाठ्य-पुस्तकों को सृजनात्मक पठन-कौशल विकसित करने का समर्थ

माध्यम बताया है। इसी प्रकार मेक्गोल्ड्रिक (१९६१) तथा टॉरन्स (१९६४) ने भी उन्हें (पाठ्य-पुस्तकों को) अनुसंधान-कौशल विकसित करने वाला प्राथमिक साधन स्वीकारा है।

इस हेतु अधिगम अनुभवों (Learning Experiences) की उन विशिष्टताओं को नियोजित एवं अनुक्रमित कर लेना चाहिए जो सृजनात्मक व्यवहार को सुकर बनाती हैं। फिर पठन कार्य की तीन स्थितियां निर्धारित की जाती हैं। पहली वह जिसमें पाठ के पूर्व की गतिविधियां सन्निहित होंगी, दूसरी वह जिसमें पाठ के दौरान की गतिविधियां सम्मिलित होंगी तथा तीसरी वह जिसमें पठनोपरान्त की गतिविधियां संयुक्त होंगी। ये गतिविधियां पाठ की विविध महत्वपूर्ण सृजनात्मक अधिगम-अनुभवों में सावधानीपूर्वक विश्लेषण कर लेने के उपरान्त निर्धारित की जाती हैं। सी० ए० आई० (काम्प्युटर एडेड इन्स्ट्रक्शन) या 'टीचिंग मशीन' में तो एक बार सभी अधिगमन-अनुभवों को अनुदेश-पदों (Instruction Item) के रूप में नहीं भरा जा सकता, किन्तु पाठ्य-पुस्तकों में इन्हें न्यस्त करने की पूरी-पूरी गुंजाइश रहती है। अतएव उच्चकोटि की पाठ्य-पुस्तकें सृजनात्मक पठन के विकास में सहायक हो सकती हैं।

सृजनात्मक पठन को प्रोत्साहित करने हेतु पाठ्य-पुस्तकों में ऐसे विचारोत्तेजक प्रश्नों को स्थान दिया जाना चाहिए जो विचार-प्रवणता (Fluency), विचार नम्यता (Flexibility), विचार-विशदता (Elaboration) और मौलिकता को जन्म दे सके। पठन-विशेषज्ञ ड्यूरेल और चेम्बर्स (१९५८) तथा लॉरी (१९६०) ने अपने शोधकार्य द्वारा यह निष्कर्ष निकाला है कि विचार-विशदता (Elaboration) पूर्ण पाठान्त अभ्यास अच्छे पठनकर्त्ता के विकास में सहायक होते हैं। इसके अतिरिक्त पठित वस्तु पर छात्रों से पूर्व नियोजित अनेक संबद्ध प्रश्न पूछकर या दूसरे शब्दों में उन्हें 'इनक्वायरी ट्रेनिंग' देकर भी सृजनशील पाठक बनाया जा सकता है।

शोध-निष्कर्षों के आधार पर यह कहा जा सकता है कि पठन सर्जनात्मक तब होता है जबकि पठनकर्त्ता अपने पूर्वानुभवों का उपयोग प्रस्तुत सामग्री की समीक्षा अथवा व्याख्या करने के लिए करता है। पठन द्वारा अर्जित अनुभवों और विचारों को परस्पर बुनकर, संगठित कर, उनका मूल्यांकन और अनुप्रयोग करता है। संक्षेप में, डेविड एच. रसेल और हेनरी आर. फी (१९६७) ने सर्जनात्मक पठन के निम्नांकित केन्द्र-बिन्दु सुझाए हैं :-

(१) लेख के अभिहित अर्थों को खोजना।
(२) वर्णित तथ्यों और लेख के अभिप्राय से दूर जाना।
(३) बिम्ब और सौन्दर्य की अनुभूति और आशंसन (Appreciation) करना।
(४) पठित वस्तु का समीक्षात्मक मूल्यांकन करना।

इस प्रकार, सर्जनशील पाठक 'समस्या-समाधान अभिवृत्ति' से युक्त होता है। वह प्रत्यास्मरण कर्त्ता नहीं अपितु कल्पनाशील चिन्तक होता है। वह 'शुष्कं काष्ठं तिष्ठत्यग्रे' कहने वाला बाणभट्ट का पहला पुत्र नहीं, अपितु 'नीरस तरूरिह विलसति पुरतः' का उद्रेक करने वाला कल्पना और सौन्दर्य की दृष्टि से समन्वित दूसरा पुत्र पुलिनभट्ट है। वह वहां भटक जाता है जहां मार्ग बना बनाया मिल जाता है, क्योंकि वह तो चिर-अन्वेषी है।

Summary

CREATIVE READING

—Umrao Singh Chaudhry

'Explosion of knowledge' accompanied paradoxically with an 'explosion of ignorance' and the flood of pointed matter have impressed the reading function with a new import and importance. Unless one reads continuously and creatively, there is the danger of one's slipping into ignorance. Little wonder that educators all over the world are seized of the problem of enabling the pupils to read creatively.

Reading is not barking at print; it is a complex and dynamic process. It is a 'magic' which enables us to peep into the distant, the minute, the past and the future.

In the present 'Intellectual Era' creative reading and not mere mastery of facts entitles a person to be called intellectual. Creative reading has four stages according to one authority : 1. Reproducing imaginatively 2. Elaborating what is read 3. Re-arranging and transforming what is read and 4. Going beyond what is read.

To enable the students to read creatively there must be a planned programme to inspire them and fire their imagination. Good quality books are essential; but above all they should be taught to re-interpret, re-dress and re-create what they read in the books.

In short creative reading consists in searching the inner meaning of words, going beyond the facts read, to appreciate and evaluate what has been read.

[MCS]

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समीक्षा REVIEWS

An Introduction to Linguistics for Language Teachers: N. Krishnaswamy; Somaiya Publications, 1971, Rs. 18.00, pages 232.

Going through the book on Linguistics makes uncomfortable reading for one who has been brought up on the diet of Nesfield and Martin. Old prejudices die hard and new assumptions take time to sink in. This is the case with me. N. Krishnaswamy has amassed a lot of arguments to pull the rug under the feet of traditionalists. He rejects the traditional grammar on 14 points. He pulls punches at Fowler as well. He says, "If 'English' and correct usages are not found in writings and speeches of eminent scholars, where then is 'English' ?"(116) Well done Mr Krishnaswamy. You have demolished Fowler but skirted clear of the answer. The question: what is English ? – remains unanswered. Frankly speaking, you laid down the rules of the game : 'like bird-watching, word-watching can be very fascinating,' (229) but there is something beyond it. Mallarme, the French poet, said the same thing that language (he mentioned '*langue*' which partly includes literature as well) was only the combination of words. But later on he realised that this combination reflected the personality of the writer. So the word-watchers in most of the cases become more interested in the mechanical side of it than the 'spirit of the language' as Valery puts it.

The book is divided into four parts : preliminaries, evolution, the current scene, and applications. The division of the book does not seem artificial and the arguments adduced to support author's thesis are quite convincing.

'Preliminaries' deals with the 'psychology of grammar'. The author says that both animals and human beings learn but there is difference in their learning. The behaviour of the animal is predic-

table whereas of human being unpredictable because 'the behaviour of man is language.' (3)

In terms of learning, a parrot can learn only a limited number of signals but has no ability to 'abstract a sentence pattern.' In animal communication system there is no grammar. As a matter of fact, it is based on stimulus control. On the contrary, human language is free from stimulus control and situation context. "Animal communication is context bound but human communication can be context free. Man alone can talk about experiences without actually living them." (14)

Language is not logical but psychological. "It (grammar) is predominantly psychological, the logic of the psyche." (21) Grammar is a finite set of principles; the individual makes use of these principles. The result is the language.

'Evolution' is concerned with the 'pangs of birth' of the Linguistics. The author discusses the origin of the language historically. The sweep is wide. He talks of Genesis, Analogists and Anomalists, Hebrew and Old Testament, Saussure, Sapir and Bloomfield. In fact, Bloomfieldian structuralism has been dealt with at length.

'The Current Scene' touches the problems of transformational approach. The traditional grammar failed because 'it refused to see the universality of change.' Structuralism failed because it could not 'recognize the importance of meaning.'

'Applications' is concerned with the teaching of a second language. He talks of the contrastive approach. He says that contrastive approach is only a predictive technique. "This means that by looking at the description of the first and the second language we can only predict the difficulties the learner is likely to meet; it does not mean that, for all the mistakes that the learner makes in the second language, the first language habits alone are responsible." (205)

'Teaching' a second language is different from teaching the first language. "A learner who has learned one language knows a lot about human languages. He has built a universal grammar and this helps him in learning other languages." There is a need to enter a caveat. A child learns the first language without specifically knowing the rules because it is 'in his blood' and is a part of his surrounding. The same can not be said in the case of the second language.

The author is uncommitted on the methodology of teaching a second language. He admits that "the assumptions in methodology are largely an act of faith." (217) No approach is perfect. He rightly concludes, "perhaps there is no short cut to language learning; languages are to be learnt the hard way." (217)

Mr Krishnaswamy has devoted some lines to what he calls 'Indian English'. There is no future for English in India. Therefore he fears that it would become a 'library language'.

It seems that the author is enamoured of the "spoken standards that are current in the English world." (222). The 'white master' has left but the 'brown master' has taken on the mantle to impose the conformity of the white master. The words like 'Bengali English', 'Tamilian English' are thrown in the face to establish the point that 'standard Indian English' has come to stay. He suggests a panacea to improve 'Indian English'. "In Indian languages we maintain a distinction between the 'platform style' and the informal style. But in English we always adopt the 'platform style' ! If this is avoided Indian English may sound more natural." (225) But he does not explain what is the 'platform style'. Nor when the informal style degenerates into the 'platform style'.

The book is good for those who are interested in Linguistics, though certain points are over-simplified. The author calls the book 'an introduction' and it remains an introduction without laying any claim to scholarship. There is only one snag: the tone. In fact, the tone of the book is didactic and hence offensive. The author takes the I-know-all attitude which tends to jar on the nerve of the layman.

Chaitanya

Linguistics and teaching foreign Languages : Eric H. Kadler; Van Nostrand Reinhold Company 1970. pp XVI+ 189. $ 4.95.

For long the rapidly growing science of linguistics has been viewed with suspicion, and doubts have been expressed whether linguistics can contribute much to language teaching. Perhaps in the first-language-learning situation the teacher and the student do not need much knowledge of linguistics or even of formalised grammar. But it would be naivete, if not ignorance, to say the same about foreign language-learning. It should be remembered here that a foreign language is not the same thing as a second language. A second language may be used in many sectors of the life of a community; but the foreign language is almost entirely restricted to the classroom. If it is a foreign language it can be learnt only from books and teachers—human or mechanical. How can the sounds of the foreign language be accurately learnt without taking recourse to Phonetics ? The teacher would save a lot of time and also make his teaching effective if he contrasted the sounds and structures of the mother-tongue of his students with the sounds and structures of the

target language. That is where Contrastive Linguistics comes in. At a higher level when the student is required to express himself in the foreign language and to study its literature, he will have to deal with considerations of style and relate his learning to the social culture and the psychological behaviour of the community whose language he is learning. For, once he has mastered the sounds and structures and acquired a reasonably active vocabulary, is he not grappling with the unique features of the language that emanate from the characteristic modes of thought, behaviour and social intercourse of the speakers of that language ? If socio-linguistics, psycholinguistics and stylistics will not help him, what else will ?

The book, however, does not deal with the subjects mentioned in the above sentence. It is concerned primarily with equipping the school-teacher of foreign language with adequate knowledge of applied linguistics to enable him to do his job efficiently. A committee acting on behalf of the Modern Language Association of America has strongly recommended especially for foreign language teachers in America some minimum knowledge of the nature of language and of linguistics. Eric Kadler has tried in this book to provide such knowledge.

If this has been the aim of the author, nobody should expect the book to be an original contribution. As a matter of fact it is a rehash of the already available material on the subject. As he very candidly opens the preface :

"This book is intended as a contribution to the professional preparation of foreign-language teachers. Toward this goal, the emphasis is not only on the mastery of the language alone but also on the proper understanding of linguistic principles. Those concerned with language-teaching methodology largely agree that there is '...a need either to include courses in linguistics on a college level for future language teachers, or else to require *all* teachers of languages to have at least one additional year of linguistic training before going into the profession." (Page VII)

The preface removes from the reader's mind ambiguities about the nature of the book that might possibly have been caused on first reading its title.

The author being aware that to many uninformed language teachers 'linguistics is a vast unknown land peopled by creatures who speak gibberish to one another.....', has made his treatment of the matter as lucid, and free from jargon as possible. He makes even simple points easily comprehensible with the help of examples :

"The relationship of words in sentences is a concern of syntax, but the lexical meaning or denotation of words is a matter of semantics.

"To contrast the concept of morphology with syntax and semantics, we may consider a few examples of common mistakes made by learners of a (foreign) language.

"A sentence like 'He brang his mother some fishes' is defective morphologically. 'He some fish his mother brought' and 'He fish some brought his mother' have obvious syntactic defects. If someone says 'sensible' instead of 'sensitive' when referring to pain, the mistake is semantic." (Page 86)

Recently, in some syllabuses in our country a new item *Basic Sentence Patterns* has been introduced. In the absence of any easily available material on the subject, teachers have had great confusion about it. Many thought that basic sentence patterns had some pre-fixed number and order. Perhaps Kadler found his colleagues in the United States in the same predicament. He strips the subject of its mystery when he says :

"The number of the Basic (or kernel) Sentence Patterns in any given textbook may vary from six to ten or more. In his *Patterns of English* (Harcourt, 1956), Paul Roberts listed only six patterns. The list was expanded to ten in his *English Sentences* (Harcourt, 1962). Marshal L. Brown and E. White identify eight basic patterns in their *Grammar for English Sentences* (1966), while Stageberg in his *Introductory English Grammar* gives nine basic sentence patterns. *Modern Grammar and Composition* (American Book, 1967), by David A. Conlin and George R. Herman, presents seven basic patterns.

"How many basic patterns are really needed to represent the full communicating power of language depends on how complete and how exclusive each pattern is meant to be. It appears that only five general patterns could cover the spectrum of basic sentence structures. We shall symbolize them here, bearing in mind that they represent an extreme simplification of the concept of basic patterns. The more complete the description of grammar, the more subdividing of verb classes would be made. The symbols commonly used are as follows: D-determiner, N – noun or pronoun, V – verb (of a number of classes), LV – any socalled linking verb, Adv.-adverb, and Adj. – adjective. Determiners are articles, possessive and demonstrative adjectives, and such words as *another, all, both, each, every, several, what, which, many, more, most.* They are used as noun substitutes (*All* goes well) and as signals followed by nouns or modifiers (*Another* man came, ... *all* great men died, etc.). Linking verbs are forms of *to be* and such verbs as *become, feel, appear, seem, taste, smell,* and a few others. (The latter link nouns to adjectives.)"(Page 99).

To make the book further useful especially for pedagogical purposes, the author has added to each chapter review questions and supplementary reading list. The book also contains a glossary, a bibliography and a brief summary of each chapter.

In dealing with syntax, morphology and phonology the author takes up examples from English, French and German. Thus he pre-supposes that his readers would know these languages. This to some extent circumscribes the book's usefulness for the Indian teachers. Why can't our teacher-training institutions, undertake the writing of similar books in which English is contrasted with Hindi, and other regional languages of particular zones ?

V. D. Singh

Children's Progress : Richard Greenough UNESCO, Paris, pp 61, 1968.

The book is third in the series UNESCO and Its Programme, the first two being, Teachers for the Schools of Tomorrow and The Right to Education.

For a decade UNESCO and UNICEF have been combining their financial resources and professional expertise to develop, expand, often even to create, education projects in countries all over the world, especially in the developing countries. The present book contains stories of the same programme in six Middle-East Countries viz. Tunisia, Malawi, Iraq, Lebanon, Sudan and Algeria, all the six being underdeveloped with very low per capita income.

Besides an introduction on the need, scope and nature of the programme in general, the book consists of six chapters on the programmes taken up in the six countries to meet the increased needs of trained teachers and making the best possible use of the available resources both human and material.

Tunisia took up a programme of primary teacher training and revised the school curriculum which now lays more emphasis on practical subjects. Malawi established Domasi Science Centre to train teachers for teaching science through a series of guided practical experiments with the help of improvised equipment. Iraq took up the project of in-service training to improve primary education with the help of mobile advisory groups. The programme was so successful that the Iraqi Government has now decided to adopt it on permanent basis. Lebanon started in-service training centres with attached primary schools for demonstration teaching. They claim to have prepared the teachers in a better way than the regular training colleges. Sudan concentrated on upgrading her teachers and has been successful in up-grading the schools alongwith the teachers. Algeria met the increased needs of school buildings by starting three hour schools and using the buildings from morning till evening. The shortage of teachers was met by engaging monitors and training the teachers in evening as well as weekly classes.

Though only skeleton accounts of the programmes are given, the book is still fairly informative besides being very interesting reading and offers many practical hints to those interested in the education of developing countries. It is interesting to note, for example, that Tunisia is not laying much emphasis on the traditional village craft as its future appears to be doubtful there in view of the growing mechanisation and industrialisation of the country.

Get-up and printing of the book are quite satisfactory.

Shyamlal Kaushik

युगानुकूल हिन्दू जीवन-दृष्टि : काका कालेलकर, भारतीय ज्ञानपीठ, वाराणसी पृ० सं० ४३६; मूल्य : सोलह रुपए ।

विनोबा के अतिरिक्त जो लोग महात्मा गाँधी की उदारवादी जीवन-दृष्टि को जीवित रखे हैं उनमें काका कालेलकर का नाम अग्रणी है । इस दृष्टि से 'युगानुकूल हिन्दू जीवन-दृष्टि' का अपना महत्व है क्योंकि इसमें न केवल समकालीन प्रश्नों पर गांधीवादी दृष्टिकोण से विचार किया गया है वरन् स्वयं लेखक के शब्दों में उसके 'सारे चिंतन का निचोड़' और 'चिंतन का सर्वोत्तम भाग' है । इस दृष्टि से काका कालेलकर के चिंतन को समझने के लिए सर्वोत्तम पुस्तक यही हो सकती है । एक गांधीवादी चिंतक की पुस्तक होने के नाते यह उस सारी आलोचना का शिकार हो सकती है जिसका शिकार स्वयं गांधीवादी चिंतन है । लेकिन तब वह इस विशिष्ट पुस्तक की आलोचना न होकर गांधीवादी चिंतन की आलोचना होगी जिसके लिए यह उपयुक्त स्थान नहीं । बेहतर होगा हम अपने को पुस्तक तक ही सीमित रखें ।

पहली आपत्ति तो पुस्तक के नामकरण को लेकर ही की जा सकती है । आज के किसी विचारक का आग्रह 'युगानुकूल जीवन-दृष्टि' पर होना चाहिए या 'हिन्दू' दृष्टि पर ? 'भारतीय दृष्टि' तो फिर भी समझ में आ सकता था । वैसे काका कालेलकर कहते हैं कि वे 'हिन्दू' शब्द का प्रयोग किसी संकीर्ण अर्थ में नहीं कर रहे हैं । उसमें वह सब कुछ शामिल है जो 'भारतीय' में है । तब फिर 'हिन्दू' विशेषण पर जोर क्यों ? 'भारतीय जीवन-दृष्टि' क्यों नहीं ? इसी से सिद्ध होता है कि लेखक के अंतर्मन में कहीं न कहीं 'हिन्दुत्व' की धारणा अपने रूढ़िगत अर्थ में ही है । अन्यथा किसी भी शब्द से ऐसा मोह क्यों ? हाँ, यह माना जा सकता है कि लेखक की दृष्टि सांप्रदायिक या संकीर्ण नहीं लेकिन सिर्फ उदारवादी होना ही काफी नहीं होता । समकालीन जीवन में ऐसे निरर्थक शब्दों के मोह से मुक्त होना भी आवश्यक है । निरर्थक मोह और युगानुकूलता का तो छत्तीसा संबंध है ।

वर्ण-व्यवस्था पारम्परिक हिन्दू समाज का ही आधार थी या कि संपूर्ण भारतीय समाज का । जाति-प्रथा हिन्दू समाज की विशिष्टता थी या बौद्ध, मुसलमान और ईसाई

सभी की। या कि ये लोग लेखक के वृत्त के बाहर हैं। इनकी समाज व्यवस्था के बारे में लेखक कोई दिशा निर्देश नहीं देता। तो क्या ये पूर्णतया युगानुकूल हैं? तब तो फिर 'इस्लामिक जीवन-दृष्टि' या 'ईसाई जीवन-दृष्टि' ज्यादा ठीक रहता। इसी प्रकार लेखक हिन्दू कानून की कई खामियां ढूंढता है पर सभी धर्मों, जातियों व वर्गों की समानता के गीत गाता हुआ भी वह संपूर्ण भारतीय समाज के लिए समान कानून की माँग नहीं करता और न हिन्दू धर्मावलंबियों के अतिरिक्त अन्य लोगों को उनके दोष दिखा कर उन्हें सुधार के लिए ही प्रेरित करता है। इस प्रकार स्पष्ट ही यहां 'हिन्दू जीवन-दृष्टि' किसी व्यापक विस्तार को नहीं घेरती। तब क्या स्वयं हिन्दू-दृष्टि भी युगानुकूल कही जा सकती है?

जीवन-दृष्टि का दावा करने वाली इस पुस्तक में एक कमी और अखरती है। आर्थिक व्यवस्था और आर्थिक अंतर्संबंधों के बारे में यह पुस्तक मौन है। आर्थिक संबंधों का 'युगानुकूल' स्पष्ट निरूपण करने में जो जीवन-दृष्टि असमर्थ हो उसे क्या आज समाज-व्यवस्था में आमूलचूल परिवर्तन करने वाली जीवन-दृष्टि कहा जा सकता है? लेकिन अर्थ पर विवाद करते ही 'हिन्दू' शब्द से हटकर एक वृहत्तर समाज की कल्पना करनी पड़ती है जो शायद लेखक को प्रिय नहीं।

हाँ, यदि यह मान लिया जाता है कि पुस्तक का ध्येय रूढ़िगत हिन्दू समाज में सुधारवादी एवं उदारवादी सिद्धान्तों का प्रसार करना है तो निश्चय ही लेखक अपने उद्देश्य में सफल है। लेकिन संपूर्ण भारतीय समाज की कोई परिकल्पना उसके पास नहीं है।

नंदकिशोर आचार्य

Evaluation in Schools : W.N. Dandekar: Shri Vidya Prakashan, Poona-30 : Rs. 15 : pp. 382.

Examinations in general and their traditional pattern in particular have been the cause of evil in our educational system. They have come up for virulent criticism both on account of large measurement error characterizing them and adverse educative influence generated by them. Therefore, much emphasis has been given to this aspect by so many agencies working for the improvement of educational system. There are many books on evaluation, mostly of foreign origin, but, the book written by W. N. Dandekar is different in approach and style. Introducing the book, the author has rightly claimed that the general orientation of the book is functional. Throughout the book, the author has explained the details with life examples relating to the field of education and also outside it. It enables the reader to grasp the core idea immediately.

Evaluation is the integral part of the teaching-learning process and it involves (i) identifying and defining instructional objectives in behavioural terms; (ii) using suitable learning experiences and; (iii) constructing suitable evaluation instrument and apprising various learning outcomes. The book deals with all the three aspects. The teachers commonly feel difficulty in defining objectives in behavioural terms and without it, neither suitable teaching methods can be adopted nor evaluation can be meaningful. The emphasis has rightly been given on explaining objectives, learning outcomes and also instructional objectives of various school subjects. There are separate chapters on learning experiences, unit plan, unit test, standardization of test, internal assessment and tools of evaluation. The second part of the book covers those statistical methods which are useful for the average teacher.

The book is throughout lucid and gives an interesting reading though the subject is technical. There are questions and exercises many of which give opportunity to apply the knowledge already learnt. The book is very useful for a classroom teacher, supervisor and a student-teacher who needs basic understanding and skill in preparing various tools of evaluation and interpretation and application of results.

C. S. M.

The Eagle, the Pig and the Cat; The Happy Dragon; Goldilocks and the Three Bears; The Boy in the Moon; Hansel and Gretel; The Father, his son and their Donkey; The Lion, the Wolf and the Fox; The Old Woman and her Pig; The Ugly Ducking; The Three Goats and the Dwarf; The Grasshopper and the Ant; Red Shoes; Ali Baba and the Forty Thieves; The Giants Garden; The Two Dingoens; The Tin Soldier; Tom's Gold. Adapted and simplified by L. A. Hill and Geraldine Kaye: Oxford University Press.

The stories in these books are not new ones, but adaptations of various well known tales. The seventeen books contain 30 stories, 28 retold by L. A. Hill and 2 by Geraldine Kaye. The publishers state that the books form part of a new series of structurally and lexically graded reading material for the age range 7-17. Each of the seven stages caters for two levels of interest – junior and senior. The two stages discussed here are based on 'lexical plateaux' of 500 and 750 headwords respectively, but the grading system is above all syntactical.

These 17 books fall into three groups :

(a) eleven books in 500 headwords Junior level;

(b) four books in 500 headwords Senior level; and

(c) two books in 750 headwords Junior level.

However, the precise age group for which each stage is suitable is nowhere specified.

All these books are intended to serve as supplementary readers. The main educational purpose behind such material is to promote rapid reading with comprehension. To achieve this end a writer has to keep the interest factor and the difficulty

level constantly in view. Achieving this balance is difficult in supplementary readers in a foreign language. If the language is kept simple, the subject matter can easily fall below the mental level of the age group for which it is intended, thus rendering it unappealing. On the other hand, the need to maintain interest can easily lead a writer to use language which is difficult and consequently incomprehensible. The writers of these books have successfully overcome this by selecting fables and stories which have maintained their appeal over the ages.

While it is easy to grade a book lexically, it is much more difficult to grade it structurally. This is because graded word lists are more readily available than suitably graded lists of structures. Cosequently an author seldom gives the exact number of structures used, and this series is no exception. Structural grading can, and often does, lead to very unnatural use of the language. Consider, for example, sentences like, :

'There were not any people in the forest.'[1]

'There was not any sugar in it.'[2]

Besides, structural grading is often very subjective, mostly depending on the convenience of the writer. Take for example the following two sentences, :

'The cat went to the eagle's nest at the top of the tree, and it said, 'The pig is digging under our tree. The tree is going to fall and then the pig is going to eat your babies and my babies'.[3]

These are the eleventh and twelfth sentences in the very first book of the series and it cannot be denied that they are difficult. The first is a compound sentence, where the prepositional phrase acts as an adverb of place, and the sentence includes direct narration too. In the second sentence 'going to...' has been used first to show inevitability and then to show intention. Similarly expressions like 'going to go', 'going to come' and 'This man is very old. He is going to die.' are not incorrect but can be confusing in the initial stages of learning a foreign language.

All the books are beautifully printed and illustrated and in spite of slips here and there, are bound to keep young readers interested. It is hoped that they will be reasonably priced so that they will be within reach of a large number of Indian school children.

Ishwar Nath Sopori

1. Page 5 Goldilocks and the Three Bears.
2. Page 7 Goldilocks and the Three Bears.
3. Page 4 The Eagle, the Pig and the Cat.

हिन्दी के आंचलिक उपन्यास और उनकी शिल्प-विधि – डॉ० आदर्श सक्सेना, सूर्य प्रकाशन मन्दिर, बिस्सों का चौक, बीकानेर, जुलाई १९७१, आकार डिमाई, पृष्ठ सं० ३६७, सजिल्द, मूल्य ३२.००

वर्त्तमान शताब्दी के छठे दशक में हिन्दी में आंचलिक उपन्यासों का दौर चला और लगभग दस वर्षों तक इस विशिष्ट उपन्यास-विद्या की खूब चर्चा रही। पर उसके बाद यह विद्या इतनी रूढ़ और सम्भावना रहित हो गयी कि उपन्यासकारों तक को घोषणा करने की जरूरत पड़ने लगी कि उनका उपन्यास-विशेष 'आंचलिक' नहीं है। (शिवप्रसादसिंह, 'अलग-अलग वैतरणी') इस अवधि में काफी बड़ी संख्या में आंचलिक उपन्यास लिखे गये। यह उचित ही था कि विश्वविद्यालय का कोई शोधकर्ता इस काव्यविद्या की विशेषताओं, स्रोतों, उपलब्धियों आदि का विवेचन-विश्लेषण करता, श्री आदर्श सक्सेना ने राजस्थान विश्वविद्यालय, जयपुर की पीएच० डी० परीक्षा के लिए इस विषय को चुना और अपना शोध-प्रबन्ध प्रस्तुत किया यह प्रबन्ध अब पुस्तक के रूप में हमारे सामने है।

पुस्तक पढ़ते समय हम शोधकर्त्ता के व्यापक और गम्भीर अध्ययन से प्रभावित होते हैं। उसकी लेखन शैली में गम्भीरता की भी कमी नहीं है। पर दुर्भाग्यवश प्रबन्ध की रूपरेखा और मूल दृष्टिकोण के दोषपूर्ण होने के कारण वह हमारी अपेक्षाएँ पूरी नहीं कर पाता।

ग्रन्थ नौ अध्यायों में विभक्त है। भूमिका में 'अंचल' एवं 'आंचलिकता', 'कथा साहित्य एवं औपन्यासिक शिल्प' तथा आंचलिक उपन्यास के स्वरूप एवं विशेषताओं के स्पष्टीकरण के बाद प्रथम अध्याय में 'हिन्दी उपन्यासों में आंचलिकता के विकास' का विवेचन प्रस्तुत किया गया है। द्वितीय अध्याय में हिन्दी के आंचलिक उपन्यासों का वर्गीकरण तथा उसके आधारों की चर्चा हुई है। बाद के अध्यायों में क्रमशः 'वस्तुशिल्प', 'पात्र एवं चरित्र-चित्रणगत शिल्प', 'देशकाल एवं वातावरणगत शिल्प', 'जीवन-दर्शनगत उपलब्धियाँ एवं तद्विषयक् शिल्प', 'भाषा-शिल्प' एवं 'शैली-शिल्प' का विवेचन है। अन्तिम अध्याय में आंचलिक उपन्यासों के साहित्यिक महत्व पर विचार किया गया है।

इस समस्त विवेचन में लेखक 'शिल्प' के सम्बन्ध में अत्यन्त भ्रान्त धारणा लेकर चला है। यह बड़े ही दुर्भाग्य की बात है कि लगभग आधे दर्जन शोध-प्रबन्धों में 'उपन्यास-शिल्प' का विवेचन किये जाने पर भी 'शिल्प' के सम्बन्ध में हिन्दी के शोधकर्त्ताओं और उपन्यासालोचकों की दृष्टि साफ नहीं हो पायी है। समीक्ष्य शोधप्रबन्ध के अन्त में 'सहायक ग्रन्थ' के अन्तर्गत जिन अंग्रेजी पुस्तकों के नाम गिनाये गये हैं, यदि उन्हें ठीक से पढ़ और समझ लिया जाए तो 'उपन्यास-शिल्प' के सम्बन्ध में, मेरा विश्वास है, कोई भ्रान्ति नहीं रह जाएगी। समीक्ष्य ग्रन्थ में लेखक की शिल्पविषयक धारणा बिलकुल अस्पष्ट है, अन्यथा वह शिल्प का सम्बन्ध पात्र एवं चरित्र, देशकाल एवं वातावरण, जीवन-दर्शनगत उपलब्धियों तथा भाषा और शैली से इस प्रकार नहीं जोड़ता। कथावस्तु, पात्र, देशकाल और वातावरण, जीवन-दर्शन, भाषा और शैली जैसे शीर्षकों के अन्तर्गत उपन्यास के विवेचन की पद्धति हिन्दी में रूढ़ि का रूप ले चुकी

है, और आज भी हिन्दी के शोधकर्त्ता इस बनी-बनाई लीक पर आँख मूंद कर चल रहे हैं। आदर्श सक्सेना ने भी बिलकुल इसी पद्धति का अनुसरण किया है और मौलिकता दिखाने के लिए सबके साथ 'शिल्प' शब्द जोड़ दिया है। इसके चलते जो विवेचन यों सामान्यतः थोड़े काम का हो सकता था, वह भी उलझ गया है।

इस समीक्षा में 'शिल्प'-विषयक धारणा के स्पष्टीकरण के लिए स्थान नहीं है। पर थोड़े शब्दों में कहा जा सकता है कि 'उपन्यास-शिल्प' उपन्यास का वह 'ढाँचा' या 'रूप' है जो उपन्यास की सामग्री के संयोजन के फलस्वरूप निर्मित होता है। उपन्यासकार जिस विशेष रूप में उपन्यास की सामग्री का संयोजन करता है, वही उसका शिल्प है। इस शिल्प की अनेक प्रविधियाँ हो सकती हैं, जिनका विवेचन पर्सी लब्बक ने अपने 'क्राफ्ट ऑफ फिक्शन' नामक ग्रन्थ में विस्तारपूर्वक किया है। समीक्ष्य ग्रन्थ में 'शिल्प'-विषयक धारणा के स्पष्ट न होने के कारण सारा विवेचन असन्तोषप्रद हो गया है। अच्छा होता, इस पुस्तक का शीर्षक केवल 'हिन्दी के आंचलिक उपन्यास' होता।

शोध-प्रबन्धों की दूसरी त्रुटि, जिससे समीक्ष्य ग्रन्थ भी मुक्त नहीं है, उद्धरणों के प्रति आसक्ति होती है। हिन्दी के शोधकर्त्ता दूसरे लेखकों के सामान्य से सामान्य कथनों को भी उद्धृत करना क्यों आवश्यक समझते हैं, यह समझ में नहीं आता। समीक्ष्य ग्रन्थ के पृ० ३५२ पर किसी शिवजीसिंह का यह कथन उद्धृत है कि "आंचलिक उपन्यासकार कभी-कभी छोटी-छोटी बात के वर्णन में इतना रत हो जाता है कि पाठक ऊबने लगता है।" यह कोई ऐसी बात नहीं जिसे उद्धृत करने की आवश्यकता प्रतीत हो। इसी प्रकार पृष्ठ ३२२ पर किसी हीराप्रसाद त्रिपाठी का मत उद्धृत है कि "व्यक्ति को केन्द्र बनाकर जो साहित्य रचा गया उससे वह समाज-निरपेक्ष और एकांगी हो गया, गल्प साहित्य एक तरह के मनोवैज्ञानिक कुहासे से ढक गया और हिन्दी साहित्य में गतिरोध आ गया। यह गतिरोध आंचलिक विद्या के कथा-साहित्य से ही हटा।" इस प्रकार के सामान्य उद्धरणों से पुस्तक भरी हुई है, जो शोधकर्त्ता की स्वतंत्र चिन्तन-क्षमता के अभाव के द्योतक हैं।

विवेचन की एक और त्रुटि हमारा ध्यान आकृष्ट किये बिना नहीं रहती। शोधकर्त्ता ने अलग-अलग पुस्तकों का अध्ययन किया है, जिसे प्रसंग विशेष में एक के बाद एक सजा दिया गया है। यह अध्ययन गम्भीर चिन्तन-मनन, विश्लेषण और समाहार से युक्त न होने के कारण प्रभावित नहीं कर पाता।

पुस्तक को देखकर सबसे अधिक प्रकाशक को बधाई देने की इच्छा होती है जिसने इसे इतने अच्छे ढंग से प्रकाशित किया है।

गोपाल राय

छप्पन कविताएं – बालमणि अम्मा, भारतीय ज्ञानपीठ, वाराणसी पृ० सं० १६०; मूल्य: दस रुपये।

यह पुस्तक मलयालम की प्रसिद्ध कवयित्री बालमणि अम्मा की छप्पन चुनी हुई कविताओं का हिन्दी अनुवाद है। किसी भी अनुवाद को देखते ही यह प्रश्न सहज ही उठ खड़ा होता है कि इस अनुवाद की आवश्यकता क्यों महसूस की गई। अनुवाद का एक सीधा-सादा उद्देश्य तो यह होता है कि वह हमें किसी अन्य भाषा के महत्वपूर्ण लेखक की रचनाओं से परिचित करवाए और इससे भी अधिक गंभीर उद्देश्य यह हो सकता है कि वह हमारी भाषा की रचनात्मक सामर्थ्य को और पुष्ट करे। दूसरी दृष्टि से यह अनुवाद असफल है। शायद इसके भी दो कारण हैं: पहला तो यही कि श्रीमती अम्मा परम्परा-वादी भारतीय कवयित्री हैं और इसीलिए उनका अनुभूति-यंत्र भी कमो-वेश अन्य भारतीय रचनाकारों के समान ही है और इस दृष्टि से हमारी भाषा में नए अर्थ उजागर कर सकने की क्षमता उनकी कविता में नहीं हो सकती; दूसरा यह कि अनुवाद अत्यधिक शाब्दिक और बोझिल है। अनुवाद की भाषा आज के हिन्दी लेखन की भाषा नहीं है। जिस प्रकार के सामान्य विषयों पर कविताएं लिखी गई हैं, अनुवाद करते समय यदि उसी प्रकार की सामान्य भाषा के उपयोग का ध्यान रखा जाता तो ये अनुवाद कम असहज हो सकते थे।

ये कविताएं अतिशय आदर्शवाद से ग्रस्त एक कवयित्री का चित्र हमारे सम्मुख प्रस्तुत करती है। संभव है कि मलयालम भाषा की काव्यात्मक संभावनाओं का कवयित्री ने भरपूर उपयोग किया हो, लेकिन अनुवाद के आधार पर उनकी चर्चा करना संभव नहीं है। यहाँ तो उसी की चर्चा हो सकती है जो कविताओं में कहा गया है और वह हिन्दी के पाठक के लिए बिल्कुल नया नहीं है। वात्सल्य समर्पण और 'अविचल श्रद्धा' की ये कविताएं तरल आदर्शवादी रुझान से प्रेरित हैं। अपने बच्चे के प्रति प्रेम को बलात् संपूर्ण सृष्टि के प्रति प्रेम तक खींच ले जाना अनुभूति की सघनता को नहीं बना रहने देता। बल्कि बच्चे के प्रति प्रेम में संपूर्ण तन्मयता स्वयमेव ही संपूर्ण सृष्टि, बल्कि सृजन-मात्र के प्रति रचनाकार के दृष्टिकोण को अनुभूत्यात्मक स्तर पर प्रस्तुत कर सकती है, उसका प्रभाव भी नहीं पड़ता है। फिर भी ऐसी पंक्तियाँ इन कविताओं में झलकती रहती हैं जो कवयित्री की लोकप्रियता का राज खोलती हैं–

आनंद लूट लेते हैं/अनुराग में डूबे मिथुन/उस विशाल वटतरु के भी नीचे/महा-नाग फुफकार उठते हैं/जिसके कोटरों में। या

गांव के देवालय के पार्श्व पर/खड़ा बरगद का पेड़/वह रेतीली पगडंडी और सांझ का झुटपुटरा/अपने चांपेय गौर शरीर पर/गीले कपड़े लपेट देवालय जाती वधुएं/बरगद के चबूतरे पर/मेरी ओर लुक-छिप कर दृष्टिपात करते समय/इन नीरद श्यामल लोचनों में/तड़पने वाली बिजली की रेखाएं।

जैसी पंक्तियां अतिपरिचित बिंबों को भी एक अतिरिक्त ताजगी के साथ प्रस्तुत कर सकने की कवयित्री की क्षमता की ओर संकेत करती हैं। 'कैवल्य की ओर', 'मां भी कुछ नहीं जानती', 'अपंकिल हाथ' जैसी कविताएं अपनी सहजता और अनुभूति की एकाग्र तीव्रता के कारण अधिक प्रभावी बन पड़ी हैं और श्रीमती अम्मा की काव्य-सामर्थ्य का परिचय देती हैं।

नंदकिशोर आचार्य

हिन्दी-शिक्षण : बैजनाथ शर्मा; लक्ष्मी-नारायणलाल अग्रवाल, आगरा–३; १९७० (द्वितीय संस्करण); पृ० सं० ४१४; मूल्य सात रुपये।

पुस्तक के प्रारम्भिक ७० पृष्ठों में भाषा,

भाषा शिक्षण के सिद्धान्त, मातृभाषा का पाठ्यक्रम में स्थान, उसका अन्य विषयों से सह-सम्बन्ध, पठनारम्भ योग्यता आदि पक्षों पर सैद्धान्तिक चर्चा है। बाद के तीन अध्यायों में मौखिक अभिव्यक्ति, वाचन तथा लेखन शिक्षण पर परम्परित ढंग से विचार हुआ है। एक अध्याय वर्तनी की अशुद्धियों पर और दो अध्याय नवीन शिक्षण विधियों पर लिखने के बाद आधुनिक साहित्य की प्रवृत्तियों को २० पृष्ठों में समेटने की चेष्टा की गई है। हिन्दी शिक्षण में इकाई योजना व हर्बर्ट की पंचपदीय पाठ-योजना को एक-एक अध्याय में चर्चा करने के बाद, हिन्दी-शिक्षण की अन्य पुस्तकों की भांति कविता, गद्य, व्याकरण, कहानी, नाटक और रचना शिक्षण पर एक-एक अध्याय लिखा गया है। इस उपक्रम में प्रतिपादन की शैली प्रायः यह रही है:–विधा का अर्थ बताना, अन्य विधाओं से उसका अन्तर करना, शिक्षण में उसका महत्व बताना, उसके शिक्षण की विधियों का उल्लेख करना, कुछ समस्याओं पर विचार प्रस्तुत करना और अन्ततः आदर्श पाठ-योजना और लघु-पाठ-योजना देकर उसे छात्रोपयोगी बना देना। पुस्तक के अन्तिम अध्यायों में चलते-चलाते पाठ्य-पुस्तक, मातृभाषा शिक्षक के गुण, निदान एवं उपचार तथा हिन्दी में मूल्यांकन सम्बन्धी विषयों पर भी विचार व्यक्त किए गए हैं। यों, कुल २६ अध्यायों तथा ४१४ पृष्ठों में हिन्दी शिक्षण के विविधपक्षों को समेटने-सहेजने की चेष्टा हुई है।

तद्विषयक पूर्व-प्रथित पुस्तकों से प्रस्थान-भेद करती हुई, प्रस्तुत पुस्तक पूरे एक अध्याय में डाल्टन, मॉण्टेसरी, प्रोजेक्ट, विनेटिका, डेक्रोली, बालोद्यान आदि नवीन विधियों की चर्चा करती है। तथापि, इन विधियों का "मात्र अपूर्ण परिचयात्मक टिप्पणियों" के साथ-साथ यदि "हिन्दी-शिक्षणगत उनके उपयोजन" की सोदाहरण विवेचना होती तो वह एक अधिक उपयोगी अध्याय बन सकता था। "पर्यवेक्षित अध्ययन" का, मात्र १४ पृष्ठों का, अध्याय यदि अपने पूर्व-अध्याय १ (शिक्षा एवं शिक्षण के उद्देश्य) से जुड़ जाता तब भी असंगत नहीं होता, "नवीन शिक्षण-विधियाँ" से जुड़ जाता तब भी असंगत नहीं होता। अध्याय १ (शिक्षा एवं शिक्षण के उद्देश्य) तथा अध्याय १४ (हिन्दी साहित्य की प्रवृत्तियाँ) अपने आप में इतने विशद् विषय हैं कि इस पुस्तक में उनकी सांगोपांग चर्चा हो ही नहीं सकती थी। उन्हें यदि अनभीष्ट मान लिया जाता तब भी अनुपयुक्त नहीं होता।

पुस्तक में अध्याय ११ (वर्तनी सम्बन्धी अशुद्धियाँ और उनका निराकरण) अत्यन्त परिश्रमपूर्वक संजोया गया है, किन्तु यदि "मुद्रण" पर कुछ और नियन्त्रण होता तो "वर्तनी", "बार्ता", "क्रम" (क्रम) जैसे रूप उनमें सहजतया न मिल पाते। इसी अध्याय में, पृष्ठ ११० के प्रथम अनुच्छेद में दी गई "व्याकरणिक व्यवस्था" "पुनर्विचार" की अपेक्षा रखती है, साथ ही इस अध्याय में, "अखिल भारतीय हिन्दी-वर्तनी-समिति" के प्रतिवेदन के समावेश की कमी भी खलती है।

"कथ्य" के साथ न्याय करने की चेष्टा पूरी पुस्तक में प्रत्यक्षतः विद्यमान है, तथापि निम्नलिखित तथ्य प्रारम्भिक परिवीक्षा में ही झलक उठते हैं :–

(१) हिन्दी-शिक्षण के विविध पक्षों के प्रसंग में, प्रस्तुत पुस्तक "प्रारम्भिक कक्षा" से लेकर "उच्चतर माध्यमिक" स्तर तक की विविध स्तरोपयुक्त चर्चाओं में उलझ गई है।

(२) "इकाई-योजना", "इकाई पाठ-योजना" और "हरबर्टीय पंचपदीप" पाठ योजनाओं के नमूने दिए गए हैं, किन्तु उनमें पारम्परिक अन्तर की स्थितियाँ ला पाने की उपेक्षा बनी हुई है।

(३) हिन्दी शिक्षण के उद्देश्यों की, "माध्यमिक शिक्षा-बोर्ड, अजमेर" द्वारा प्रचारित, "उद्देश्य-तालिका" के समावेश से पुस्तक अधिक उपयोगी बन सकती थी।

(४) व्याकरण-शिक्षण की "अधिक व्यावहारिक तथा प्रभावकारी विवेचना" अभी भी प्रतीक्षित है।

(५) कुछ विशिष्ट शब्दावलि के प्रयोग पुनर्विचारणीय लगते हैं, जैसे :– "मौखिक भाषा" (अध्याय-८), "संवाद-परिसंवाद" (पृ० ७७)" "सूक्ष्म अध्ययन" (पृ० २५१), "गहन अध्ययन" (पृ० १७०)।

(६) अन्तिम अध्याय (मूल्यांकन) में "व्यापक आन्तरिक मूल्यांकन कार्यक्रम" के अन्तर्गत विकसित "वादविवाद", "कविता-प्रपाठ", "भाषण" आदि के "प्रारूप" भी दिए गए होते तो प्रस्तुत पुस्तक की उपयोगिता निस्सन्देह और बढ़ जाती।

यों भी, कुल मिलाकर प्रस्तुत पुस्तक अपने विद्यमान रूप में भी हिन्दी के सामान्य शिक्षक के लिए निस्सन्देह अच्छी सन्दर्भ-पुस्तक सिद्ध होगी।

पुरुषोतमलाल तिवारी

मेरी प्रिय कहानियाँ – मोहन राकेश – राजपाल एण्ड सन्ज, दिल्ली, मूल्य पाँच रुपये

मेरी प्रिय कहानियाँ – राजेन्द्र यादव – राजपाल एण्ड सन्ज, दिल्ली, मूल्य पाँच रुपये

मोहन राकेश और राजेन्द्र यादव की कहानियाँ साथ पढ़ने पर दोनों लेखकों के बारे में एक तुलनात्मक दृष्टिकोण अपनाना बहुत स्वाभाविक है। राकेश में 'इकाई के माध्यम से उसके परिवेश को अंकित' करने का प्रयत्न उत्तरोत्तर अधिक मिलता है, यादव में 'परिवेश को अंकित' करने का प्रयत्न कम होता गया है और 'इकाई' दृष्टि का केन्द्र-बिन्दु होती गयी है। सिर्फ परिवेश के अंकन या इकाई के चित्रण के आग्रह से लेखकों का घट-बढ़ मूल्यांकन गलत होगा। हमें उनके रचनात्मक कौशल को परखना होगा। इस आधार पर हम पाएँगे कि राकेश में जहाँ रचनात्मक कौशल का विस्तार हुआ है, यादव में एक आरम्भिक विकास के बाद ठहराव आगया है। राकेश हर अगले दौर में माध्यम की ताजगी के लिए यत्नशील है और यादव अपने आजमाए माध्यम को ही ज्यादा बारीकी देने की फिक्र में है, इसलिए राकेश का लेखन-स्तर कमोबेश बदलाव लिए हुए है जबकि यादव में युक्तिगत दोहराव मिलता है।

लेखकों द्वारा अपनी प्रतिनिधि रचनाओं का संकलन कभी बेढंगा भी हो सकता है – राकेश का संकलन ऐसा ही है। इसकी अपेक्षा यादव द्वारा संगृहीत कहानियाँ ज्यादा सुथरी चयन-रुचि का परिचय देती हैं। राकेश के कहानीकार को जानने के लिए 'आर्द्रा', 'मिस पाल', 'एक और जिन्दगी', 'जानवर

और जानवर', 'मलवे का मालिक' वगैरह कहानियों को पढ़ना निहायत जरूरी है; इनमें कोई भी इस संकलन में नहीं है। यादव की दो-तीन कहानियाँ संग्रह में और हो सकती थीं, लेकिन जो हैं वे उनकी चर्चित रचनाएँ हैं।

राकेश ने 'जंगला', 'मन्दी', 'वारिस' जैसी अपनी साधारण कहानियाँ संग्रह में रखी हैं। 'परमात्मा का कुत्ता' में व्यंग्य का स्तर कुछ स्थूल होगया है। 'अपरिचित' और 'सुहागिनें' आदमी-औरत के 'सम्बन्धों की यंत्रणा' की कहानियाँ हैं, पहली में एक औरत और एक आदमी की निजी व्यथाएँ समानान्तर चलती हैं और विवाह-प्रथा की आलोचना हो जाती है। 'सुहागिनें' में एक मध्यवर्गीय पढ़ी-लिखी कमाऊ ब्याहता और निम्नवर्गीय बिना पढ़ी पर कमाऊ ब्याहता के पति-प्रभुत्वों की युगपद् कथाएँ हैं। बनावट के आभास के बावजूद 'अपरिचित' 'सुहागिनें' से ज्यादा अच्छी कहानी है क्योंकि 'सुहागिनें' में मनोरमा के दुःख का आधार काफी कमजोर चुना गया है। 'ग्लास टैंक', 'पाचवें माले का फ्लैट' और 'ज़ख्म' शिल्पगत प्रयास की ऐसी कहानियाँ हैं जो बहुत संवेदित नहीं करतीं। इस संग्रह की सबसे सशक्त कहानी 'एक ठहरा हुआ चाकू' है। बुनावट की कोशिश राकेश की सामान्य कमजोरी है, वह इस कहानी में भी है, लेकिन समग्र प्रभाव के लिहाज़ से यह एक बहुत अच्छी रचना है। देश के राजनीतिक माहौल की पृष्ठभूमि में गुण्डागर्दी से आतंकित आम आदमी का त्रास कहानी में रूपान्तरित हुआ है और कहानी एक 'शॉक' देती है।

यादव की 'पुराने नाले पर नया फ्लैट' जब छपी थी तो काफी चर्चा हुई थी। अब यह बहुत मामूली कहानी लगती है क्योंकि यादव ने उसे एक हल्के विचार के आधार पर लिखा था – एक औरत के मासूमियत से छुटकारे का प्रयत्न बहुत सपाट होकर आया है। 'अभिमन्यु की आत्महत्या', 'छोटे-छोटे ताजमहल', 'किनारे से किनारे तक' में यादव एक बहुत सचेष्ट लेखक है। यादव की सचेष्टता एकायामी अनुभवों पर ही अटक जाती है और इसलिए मानवीय रिश्तों के गहरे स्तर उनमें नहीं मिलते।

राकेश और यादव दोनों सचेत कहानीकार हैं और इसलिए दोनों की कहानियों से हिन्दी के किसी भी प्रतिनिधि कहानी संकलन के लिए कहानियाँ चुनने की जरूरत बराबर रहेगी।

नवलकिशोर

उतरती हुई धूप: गोविन्द मिश्र; राजपाल एण्ड सन्ज़, दिल्ली, पृष्ठ सं. ११२; मूल्य : ५.००

तेज सर्दी के दिनों में उतरती हुई धूप कष्ट देती है तो गर्मियों में वह राहत भी देती है।

यह पता न हो कि मौसम कौनसा चल रहा है तो यह पता चलाना कठिन हो जाता है कि वह उतरती हुई धूप सुखद है या दुखद।

और यही पता चलाने के लिए 'इस' और 'उस' का अन्तर समझना आवश्यक हो जाता है।

कुछ तो यह ज़माना ही इतना अजीब हो गया है कि सही और ग़लत, अच्छे और बुरे, पसन्द और नापसन्द आदि का अन्तर समझना ही असम्भव होता जारहा है। वही चीज़ एक के लिए ऐसी है तो दूसरे के लिए वैसी और वही चीज़ एक ही के लिए अभी ऐसी है तो अगले क्षण ही वैसी हो सकती है।

मौसम भी अभी ऐसा ही चल रहा है कि सड़कों पर पुरुष ऊनी सूट पहने और महिलाएं कार्डिगन, शॉल में लिपटी नज़र आ सकती हैं तो उसी समय तेज़ धूप को कोसे बिना भी नहीं रहा जा सकता। ऐसे ही मौसम में मेरे हाथ में है गोविन्द मिश्र का यह ११२ पृष्ठीय उपन्यास 'उतरती हुई धूप'।

पढ़ना शुरू किया तो प्रकाशन का वर्ष देखने के लिए वापस मुड़ना पड़ा। नहीं प्रकाशन तो हाल ही का है – १९७१ की बहुत पुरानी बात नहीं है।

एक लड़का और एक लड़की। दोनों में इतना प्यार कि एक दूसरे की पढ़ाई में विघ्न नहीं डालना चाहते। लेकिन यह थक कर उसके पास जा पहुँचता है तो वह भी कहती है। 'अजीब इत्तफाक है·····' कि तुम आ गए·····क्यों विघ्न डालूं तुम्हारी पढ़ाई में, पर आज सुबह से जाने कैसे और क्यों लग रहा था कि तुम्हें देख सकूंगी कम से कम।'

और प्यार के इन मूड्स में : 'शरीर की बात तो दूर मैं तुम्हें पाना भी नहीं चाहती कि कहीं पाने में ही या पाकर तुम्हें खो न बैठूं·····' 'अभी तक तो तुम्हें और इस प्यास को अलग-अलग करके नहीं देख पाई! लगता है जहाँ मन-शरीर-आत्मा एक तरफ भागते हैं वहाँ शरीर पूजा है, जहाँ वे अलग-अलग होते हैं वहाँ शरीर बोझ है···· पाप है।'

ऐसा सब कहने, सोचने वाली लड़की स्वयं परीक्षा टालकर, लड़के को लेकर होटल में जा ठहरे·····बिना मांगे भी सब कुछ दे दे और फिर शादी करवाने चली जाए माता-पिता के पास।

लेखक का दृष्टिकोण उस समय सच्चा हुआ लगता है जब लड़की के इस वाक्य पर कि 'एक देवता पर दो फूल चढ़ सकते हैं पर एक फूल दो देवता पर नहीं चढ़ता?····· वह टिप्पणी करता है : 'वह किसी घटिया फिल्म या बदनाम किताब का कोई फड़कता हुआ जुमला था –' आदि

बात यहीं समाप्त नहीं हुई है।

पृष्ठ ५६ से नयी तस्वीर सामने आती है – वह मां बन चुकी है – मुटा गई है। कुछ मैले कपड़े पहनने लगी है। अपने पति को छोड़ने और न छोड़ने की–सी स्थिति में अपने बेटे के साथ कहीं और रहकर पीएच० डी० कर रही है और शायद दस वर्ष बाद वह मिलने जा पहुँचा है।

लगता है, वह अतीत को भुला चुकी है किन्तु यह अभी उसमें डूबा हुआ है।

और डूबते में उसे कचोट लगती है कि वह कह रही है : 'इनका कितना सहारा है·····ये और चाचाजी न होते तो मैं कब की टूट गई होती·····मैंने भाईसाहब को अपने-तुम्हारे बारे में सब कुछ बता दिया है·····इन्ही को लेकर मुझ पर कितना बड़ा कलंक लगाया गया·····'

कुल मिलाकर यही कि उसकी आँख-मिचौनी शायद छः बच्चों के बाप उन भाई-साहब के साथ शुरू हो गई है क्योंकि रात नौ बजे जब वह उसके दिये गये समय पर उसके यहाँ पहुँचा तो लगा था·····स्कूटर पर वह और अनिल (उसका बच्चा) भाई-साहब के साथ थे और मकान में वाकई ताला

बन्द था जो उसके ग्यारह बजे तक चक्कर लगाने तक भी नहीं खुला था।

बात चाहे बहुत बार की पढ़ी-सुनी-देखी सी है लेकिन यह कहा जा सकता है कि कुछेक अंशों के अतिरिक्त उपन्यास में पाठक को रमाने की शक्ति है। '.....भड़ाभड़ चूमने और अगले दो दिनों तक होठ उस दर्द में रिसते रहे थे..... वह तरल पदार्थ जो तब इसने चाटा था ; इसके अपने होठों से चू रहा था और यह उसे ही चाटता रहा था.....' जैसे वर्णन अवश्य, कहूँ कि कुछ फूहड़ लगते हैं।

आरम्भ से अन्त तक छोटे-छोटे वाक्यों की सहजता अच्छी लगती है। उपन्यास में पात्रों की व अतिरंजित, अतिरिक्त घटनाओं की भरमार नहीं है। नाम तो सिवाय अनिल के किसी भी पात्र का नहीं है..... बस यह (लड़का) और वह (लड़की) और फ्लैश-बैक की तरह भाईसाहब .....अनिल।

कोई अछूता विषय इसी कलम से छुआ गया होता तो कोई शक नहीं कि मौसम को दोष नहीं देना पड़ता।

मनमोहिनी

Modern Management Techniques in Educational Administration. A publication by Asian Institute of Educational Planning and Administration, New Delhi—Year 1971, pages 542.

As part of the celebrations of 1970 as the International Education Year, the Asian Institute of Educational Planning and Administration, New Delhi organised from Nov. 2 to 12, 1970 a Regional Seminar on the Application of Modern Management Techniques to Educational Administration, and the book is a compilation of the report of the Seminar, discussion papers and various statements.

The first part of the book covers 99 pages of which the first 24 are concerning the recommendations and discussions and the remaining 75 pages constitute annexures related to names and addresses of participants followed at the end by Key Note, Presidential and Valedictory addresses.

The second part of the book comprises of the Appendix portion containing as many as sixteen discussion papers by management specialists and experts with selected bibliography at the end of each paper. Some of the papers are really thought provoking and bear great significance. The utility of behavioural sciences in Educational Administration, use of computors and various aspects of Educational Research and Administration have been discussed at length.

A student of comparative education may get interested in the 14th and 15th papers which mainly deal with Educational Planning, Administration and Management in the Republic of Korea and Japan.

The participants including the Resource Persons of the Regional Seminar, it seems, have considered Educational Administration and modern management, but have ignored human relations, an element of paramount importance. Education cannot be totally taken as Natural Science but has to be considered as Normative Social Science. Any type of administration is bound to be affected by traditions, ethos and beliefs and cannot function in vacuum. It would have been desirable, had any participant thrown light on the question.

The book will prove of use to those who control and direct Educational system as it contains valuable information on modern management techniques applicable to existing educational administration, which has rather become routine and time consuming and it is high time when it should be made developmental.

The quality of the paper used, the printing and get up, are all excellent and graphs, charts, footnotes etc. have been properly inserted.

The title cover is very attractive and impressive.

C. S. Bhatt

Guided Composition Exercises by D. H. Spencer : Longmans : Pages 57 Price Rs. 5/-.

As the name of the book suggests, it contains guided composition exercises and 'aims to lead students, by gradual stages, from the mere imitation of selected sentence patterns to the independent construction of sentences within a given framework'. 'It does not aim to teach essay-writing in the formal sense' but 'to give the students practice in composition'.

In part one sets of a key sentence and five groups of words are given. Students are required to frame parallel sentences on the model of the key sentence. There are 120 sets of exercises on tense usage, conditionals, passive, indirect speech, anomalous finites, infinitive and 'ing'–form, phrasal verbs, conjunctions, relative pronouns and some other sentence patterns.

In nearly all the exercises in part two a single paragraph is to be completed or rewritten. 'The main lines have been laid down in some details' and guidance is offered in varying degrees. 'In most of the exercises special emphasis has been placed on a particular aspect of English usage.' In the section. 'Fixed Alternative Key Words' there are Five types of exercises. In one students read a description about one thing and then write a similar one about three different things based on the given information, or information for the first paragraph is provided and pupils have to supply it for the second and third paragraphs. In a different type of exercise some journeys are described and students asked to write about them in reverse. Some exercises require pupils to construct paragraphs about different persons or activities with the help of given information after

reading model paragraphs. Pupils write two paragraphs on two persons on the basis of the information supplied and then construct a third one describing themselves in similar terms.

In the section 'Tense Usage and Verb Patterns' with the help of information given in the form of programme for examination, class time-table or sentences in a table, students are to write paragraphs using different tenses. Another set of exercises requires pupils to fill in the blanks with the correct verb forms or verbs in the passive form and to then rewrite the completed paragraphs in different tenses.

'Variable Alternative Key Words', the next section, has some passages with some blanks which are numbered. A list of words and phrases is given. Several passages can be written by choosing different words from the same list.

There are mainly two types of exercises in the section 'Placing of Correct Structural Words'. Some of them require students to fill in the blanks with some given structural words and then rewrite the paragraph using some other content words. In other exercises two or more sentences or groups of words are to be joined with conjunctions and in some cases to be put together in the form of paragraphs.

On direct and indirect speech there are only five exercises in the first three the passages are to be completed with the indirect form of the sentences given at the end while in the other two, students are asked to reconstruct the original dialogue on the basis of given passages.

In part three exercises become less controlled. Quite a few of them are on paragraph writing. In some a paragraph is to be built round a group of sentences. Some incomplete ones are to be completed. Only the first and last sentences are given in some exercises while in others ordinary incidents are outlined. Pupils have to write complete stories with the help of outlines or beginnings of stories as well as some words. There are some letters too and students are required to write similar ones making the given changes.

In the section 'Passages for Reproduction' at the end of each passage there are sentence-completion exercises. Students are asked to rewrite the passage imagining themselves to be one of the characters.

The book ends with 'Suggestions for Free Composition'. In one type of exercise pupils are to write ten to fifteen lines of dialogue appropriate to each of the given situations. Another type requires them to write 250 words describing what happened when a friend of theirs faced a certain situation.

This little book with graded exercises of a large variety, interesting situations and a score of delightful illustrations is easily the best of its kind.

Ashok Mathur

'पृथ्वी का स्वर्ग' (नाटक), डॉ० रामकुमार वर्मा; प्रकाशक–राजपाल एण्ड सन्स, पृ० ११४, मूल्य – चार रुपये

'पृथ्वी का स्वर्ग' डॉ० रामकुमार का शायद नवीनतम नाटक है। भूमिका में उन्होंने 'युग के वातावरण' की बात करके यह भी लिखा है कि अब 'रोमैण्टिक' साहित्य की आवश्यकता नहीं। इसी के साथ-साथ साहित्यकार के उत्तरदायित्व की अहमियत पर जोर देते हुए 'शिव-अशिव' तथा 'सत-असत्' का जिक्र किया है और रचनाकार का कर्त्तव्य निश्चित कर दिया है। यानी; वह 'तम से प्रकाश की ओर लेजाये।' लेकिन डॉ० वर्मा यह भूल गये कि आदर्शवादी दृष्टि स्वयं किसी बिन्दु से आगे 'रोमैण्टिक' रूप ले लेती है। शिव, सत तथा प्रकाश का आग्रह लेखक से यथार्थ की जमीन छुड़वा देता है। यही दोष प्रस्तुत नाटक 'पृथ्वी का स्वर्ग' में फैला हुआ है। परिणाम यह हुआ है कि नाटक नवीन होते हुए भी पुरानी संवेदना की उपज लगता है। वर्माजी की आदर्श के प्रति प्रतिबद्धता नाटक के ढांचे को भी बनावटी कर देती है और चरित्र यथार्थ से दूर जा पड़ते हैं।

प्रस्तुत नाटक में दो पात्र हैं जो नाटककार के मंतव्य को प्रस्तुत करते हैं – दुलीचन्द (अशिव, असत तथा तम का प्रतीक); अचल (शिव, सत् तथा प्रकाश का प्रतिनिधि)। लेकिन यह दोनों पात्र महज वाचक बन पाते हैं, जीवित पात्र (व्यक्ति) के रूप में सामने नहीं आते हैं। नाटक की पूरी रचना बनाये गये पूर्व-नक्शे का अनुकरण करती है, इसलिये फार्मूले सामने आते हैं; एक सजीव, सशक्त तथा प्रभावपूर्ण नाटक प्राप्त नहीं होता। शिल्प में जिन घटनाओं की संयोजना की गई है वह यथार्थ को प्रभावी न बनाकर उसको गौण तथा भर्ती का बना देते हैं। सवाल उठता है क्या दुलीचन्द आज की यथार्थ स्थिति की विडम्बना का वाहक अथवा प्रेरक बन पाता है? उसका स्वभाव कंजूसी का है। यह स्वभाव मुख्य होजाता, इसलिये उसका सेठानी के भूत का नाटक करना, कुन्दन को पाँच सौ रुपये का लालच देकर अचल का वह संदूक जिसमें एक लाख रुपया है, उठवाना बिल्कुल कृत्रिम लगता है। दुलीचन्द वर्तमान की हर विकृति पर व्यंग्य करता है लेकिन यह सब उसके स्वभाव और यथार्थ ज्ञान से अलग-अलग लगता है। आज का सेठ जमकर चन्दा देता है ताकि दे हज़ार, कमाये लाख, वह सेठानी के भूत जैसे पोच साधन को नहीं अपनाता। वह इतना बेवकूफ़ और कमज़ोर नहीं है कि नकली बही को आसानी से हाथ पड़ जाने दे। जानकारी किसी नाटक को विश्वसनीयता नहीं दे सकती, यथार्थ को सही तरह से प्रस्तुत करने के लिये उसकी 'क्राइसिस' को प्रस्तुत करना होता है, डॉ० वर्मा इस दृष्टि से पूर्णतया असफल रहे हैं। अचल के चरित्र को आदर्श से इतना भरा गया है कि वह बेवकूफ़ लगता है। यह सब इसलिये है क्योंकि नाटककार

के आग्रह प्राथमिकता ले लेते हैं। अगर कोई चरित्र जानदार लगता है (यथार्थ की दृष्टि से) तो 'निसपिट्टर' केशव। भाषा में भी 'तकिया कलामों' को चरित्रों के मुँह में रखा है जो पुराने फार्मूले का प्रयोग मात्र है।

कुल मिलाकर नाटक 'पृथ्वी का स्वर्ग' नाटक ही लगता है। जिये जाने वाले जीवन और वर्तमान वातावरण का प्रस्तुतिकरण नहीं। आज का दर्शक इसमें अपने जीवन का कोई पक्ष पास के या इसके पात्रों से अपनापन बैठा सके यह तो संदिग्ध है, हाँ वह हँस जरूर सकता है। और अगर पाठ्यक्रमों में लगाये जाने वाले नाटकों के साथ इसे रखा जाये तो निश्चित रूप से यह बच्चों के लिये शिक्षाप्रद सिद्ध होगा।

राजानन्द

66 **'कम्प्यूटर'** ले० रमेश वर्मा–राजपाल एण्ड संज, दिल्ली; मूल्य 3.00, 197, पृ० सं० 128

यह पुस्तक विज्ञान के क्षेत्र में हुई प्रगति की जानकारी देने में अत्यन्त सहायक है। पुस्तक में विषय-वस्तु को कुल आठ अध्यायों में बांटा गया है। 'कम्प्यूटर' की तुलना मानव मस्तिष्क से की गई है। पुस्तक में यथास्थान उदाहरण व चित्र भी दिये गये हैं। इससे पुस्तक की भाषा अत्यन्त सरल व रोचक बन गई है। 'कम्प्यूटर' की भावी उपलब्धियों की ओर भी लेखक ने प्रकाश डाला है। अन्त में 'हिन्दी-अंग्रेजी भाषा शब्दावली' देकर लेखक ने साधारण पाठक के लिए भी विषय-वस्तु को समझने में सहायता पहुँचाई है। पुस्तक में पृष्ठ संख्या ९ से पृष्ठ संख्या 128 तक 'कम्प्यूटर' के सम्बन्ध में उसकी पूर्ण जानकारी—शरीर रचना, कार्यविधि व उपयोग का स्पष्ट व सुलझा हुआ वर्णन किया गया है। लेखक ने साधारण बोलचाल की भाषा प्रयुक्त की है जिसमें हिन्दी, अंग्रेजी व उर्दू शब्दों का निःसंकोच प्रयोग किया है। जोड़, बाकी गुणा व भाग के जो तरीके 'कम्प्यूटर' रूपी मस्तिष्क के द्वारा प्रयुक्त किये गये हैं उनके सिद्धान्त उच्च प्राथमिक व माध्यमिक स्तर पर छात्रों को सिखाना उपयुक्त होगा। पुस्तक की मुद्रण व्यवस्था व साज-सज्जा सन्तोषजनक है। मूल्य भी सर्वथा उपयुक्त है।

मोहनचन्द्र तेवाड़ी

प्राप्ति स्वीकार

BOOKS

राजपाल एण्ड सन्ज
कश्मीरी गेट, दिल्ली-६

(१) **पुष्प गंधा :** भगवती प्रसाद वाजपेयी; पृ० सं० १७२, १९७१, मूल्य ६.००
(२) **अनामा :** प्रकाशवती; पृ० सं० २१९, १९७१, मू० ७.००, (३) **महाराणा रणजीतसिंह :** कुलदीप वग्गा; पृ० सं० ८५, १९७२, मू० ३.००, (४) **देवकी का बेटा :** रांगेय राघव; पृ० सं० १७१, १९७२, मू० ६.००, (५) **उत्तरायण:** डॉ० रामकुमार वर्मा; पृ० सं० १२२, १९७२, मू० ८.००, (६) **भारत-पाक निर्णायक युद्ध :** डी०आर० मानकेकर; पृ० सं० १५१, १९७२, मू० १२.००,

मुक्तक प्रकाशन
३५२, श्रीकृष्णपुरा, उदयपुर (राज०)

माटी-कुंकुम : डा० नरेन्द्र भानावत; पृ०सं० ७०, १९७२, मू० ४.००

PERIODICALS

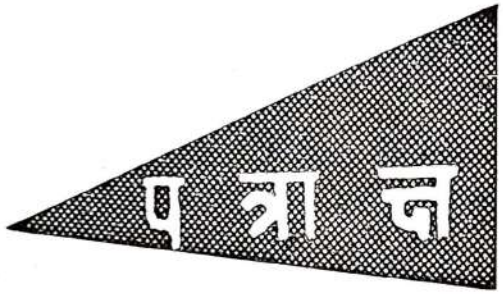
U. S. A.

Kappa Delta Pi Record, Vol. 8, No. 3, February, 1972, **(Indiana)**
The Educational Forum, Vol. xxxvi, No. 3, March, 1972, **(Illinois)**
Administrator's Notebook, Vol. xx, No. 7, March, 1972, **(Illinois)**
Exceptional Children, Vol. 38, No.7, March, 1972, **(Virginia)**

THAI LAND

Bulletin of the UNESCO Regional Office for Education in Asia, Vol. VI, No. 1, September, 1971. **(Bangkok)**

विशेष विवेचनीय एवं विवादमूलक निबंधों पर आपकी पत्र-प्रतिक्रियाओं का *पत्राक्ष* में सदैव स्वागत है



PATRĀKSH

(Readers' Views)

अध्यापक का यह कैसा स्वमूल्यांकन ?

श्री अजीतकुमार जैन (जन.-मार्च ७२) द्वारा लिखित "अध्यापन कार्य की स्वमूल्यांकन विधि" पढ़ी। सम्पूर्ण प्रश्नावली पढ़ने पर अपेक्षित उत्तरों की कल्पना से ऐसा लगा कि प्रश्नावली में महत्त्वपूर्ण तथ्यों से प्रस्तोता हाथ धो बैठा है। प्रश्नावली में अध्यापक द्वारा किये गये कार्य का चिन्तनपूर्ण मूल्यांकन का पूर्णतः अभाव है। प्रश्न रचना भी बड़ी ही अस्पष्ट, अवैध तथा लजाती हुई सी प्रतीत होती है। अध्यापन कार्य से संबंधित बहुत से ऐसे स्थल छूट गये हैं जिनका उल्लेख अत्यावश्यक था।

स्वमूल्यांकन के बाद शिक्षक को यदि एक आत्मप्रेरणा, दिशा बोध और गंभीर चिन्तनशील तथ्यों की उपलब्धि न हो तथा प्रत्येक गतिविधि पर स्पष्टतापूर्ण दृष्टि डालकर गुणावगुण का निर्णय भाव स्थापित न हो तब तक यह मूल्यांकन प्रक्रिया अधूरी और दोषपूर्ण है।

प्रश्नों के प्रकार, रचना तथा संदर्भ तथ्यों के उद्घाटन से ऐसा लगता है कि यह प्रश्नावली केवल व्याख्याता बन्धुओं के लिये अधिक समीचीन हो सकती है या फिर किसी क्षेत्र विशेष के अध्यापकों के व्यावसायिक कौशल का मोटा सर्वेक्षण का दृष्टिकोण लिये हुए है।

शिक्षक का विषयगत शिक्षण, पाठ्येत्तर प्रवृत्तियाँ तथा अन्यान्य गतिविधियाँ उद्देश्याधारित हैं, अध्यापक इनकी तह में कहाँ तक पैठ पाया है और कहाँ व्यवधान रहा, इसका लेखा-जोखा परमावश्यक था। शिक्षणोपरान्त छात्र की उपलब्धियों के संदर्भ में कोई स्थल प्रश्नावली में संबंधित नहीं किया गया, जो कि शिक्षण पद्धति के मापन का एक महत्त्वपूर्ण आधार है। इसके अतिरिक्त निम्नलिखित स्थलों पर भी विशेष चिन्तन की आवश्यकता प्रतीत होती है।

परिचयात्मक खण्ड में शिक्षकों द्वारा पढ़ाये जाने वाले मूल विषयों की जानकारी अपेक्षित है।

प्रश्न सं० १५ "अध्यापन में भाषा का प्रमुख माध्यम कौनसा है ?" प्रश्न की भाषा अष्पष्ट है इसे यों बनाया जा सकता था – "अध्यापन के माध्यम की प्रमुख भाषा क्या है ?"

१३ वाँ प्रश्न बड़ा ही त्रुटिपूर्ण है। अध्यापक विभिन्न कक्षाओं के विभिन्न विषयों का अध्यापन कराता है; संकेत यह होना चाहिये कि किस विषय का कौनसा अंश अपठित रह गया।

शिक्षण पद्धति वाले प्रश्न में प्रायोजना, अध्यापक कथन और खेल विधि जैसी महत्त्वपूर्ण प्रणालियों का संकेत ही नहीं है।

प्रश्न १७ में उद्देश्य-निष्ठ जांच की दृष्टि से जाँच परीक्षा का स्वरूप भी स्थिर करते हुए प्रगति क्रम का आधार बिन्दु भी निश्चित होना चाहिये।

पत्र-पत्रिकाओं के संदर्भ में यह तथ्य भी जोड़ा जा सकता था कि किस विषय के किस प्रकरण को प्रभविष्णु बनाने के लिये अथवा विषय वस्तु की समृद्धि के लिये क्या सामग्री उसमें उपलब्ध हुई ?

नई पुस्तकों के अध्ययन के संदर्भ में विषयगत श्रेणीकरण आवश्यक था इससे अध्यापक का व्यावसायिक रुझान ज्ञात होता।

विषय वस्तु के सहज आत्मीकरण के लिये नवीन उद्योतन सामग्री-चयन, निर्माण व संकलन का संकेत भी नहीं है जो अतिशय महत्वपूर्ण है।

उपलब्धियों के प्रसंग में छात्र-शिक्षक संबंधी बाह्य परिवेश की स्थितियों की अवगति दिलाने वाले प्रश्नों की संख्या अपेक्षाकृत कम तथा सुनियोजित नहीं है।

पुस्तकालय तथा पत्र-पत्रिकाओं के संदर्भ में ही यह आवश्यक था कि अध्यापक अपने शैक्षणिक विषयों से संबंधित कौनसी पुस्तकें-पत्रिकायें पढ़ता है और उसकी मात्रा क्या है ? इस बिन्दु को प्रश्नावली से बंचित रखा गया।

उपलब्धि प्रखण्ड में जिन प्रश्नों का उल्लेख हुआ है उनमें निजी संदर्भों को छोड़ कहीं भी अध्यापनोपरान्त छात्रगत अपेक्षित उपलब्धियों का संकेत नहीं किया गया है जो आवश्यक है। वैयक्तिक धरातल के जो प्रश्न हैं उन्हें एक ही प्रश्न के उप-प्रश्नों के रूप में समेटा जाकर छात्र के शैक्षिक और स्तर संबंधी "शिक्षण प्रभावी" प्रश्नों की संरचना आवश्यक थी।

क्या अध्यापक की रुचि के खेल तथा उनसे शैक्षिक समयोजन निर्मिति की स्थिति पर प्रश्न करना अनिवार्य नहीं था ? जबकि शिक्षण में खेल का विशिष्ट महत्त्व है। पाठ्यक्रम के उन अंशों पर भी प्रश्न संकेत आवश्यक था जो छात्रों के मानसिक स्तर और उनकी मनोवैज्ञानिक स्थितियों से अनुकूलित नहीं हैं।

यदि प्रश्नावली को निम्नलिखित प्रखण्डों में विभक्त कर सूक्ष्म चिन्तन की अवसर प्रदत्ति होती तो अध्यापक का स्वमूल्यांकन व्यापकता के गुणों तक पहुँच पाता :–

१. परिचयात्मक खण्ड
२. पाठ्यक्रम व पाठ्य विधि
३. उद्योतन सामग्री व पाठ्य सामग्री
४. उद्देश्याधारित मूल्यांकन व मापन
५. व्यावसायिक दक्षता-वृद्धि (अध्यापन कार्य में)
६. पाठ्येत्तर प्रवृत्तियाँ
७. सामाजिक क्षेत्र (छात्र अभिभावक 'प्रसंग')
८. विभागीय क्षेत्र, स्थानीय व सार्वजनिक संस्थायें
९. कठिनाइयाँ (विभागीय, शैक्षिक, समाजगत, छात्रोत्पन्न, अन्य) कुछ प्रश्न इस प्रकार के भी कि

प्रधानाध्यापक जी द्वारा आपको कितनी बार मौखिक और लिखित निर्देश व संकेत किन्हीं असावधानियों पर मिले ! और उसकी प्रतिक्रिया ?

आपके व्यक्तित्व व अध्यापन कौशल पर छात्रों की अप्रत्यक्ष में टिप्पणी क्या रही होगी ? उसकी आप पर क्या प्रतिक्रिया रही ?

शिक्षण के बढ़ते हुए चरण, नवीनतम मूल्यों और प्रगतिशील प्रवृत्तियों तथा शिक्षण उद्देश्यों को ध्यान में रखते हुए शिक्षणोपरान्त अपेक्षित परिवर्तनों, समस्याओं, विधि-प्रविधियों और योजनाओं को स्पर्श करने वाले प्रश्न-बिन्दु आवश्यक थे जिनका उल्लेख बहुत कम मात्रा में है ।

कुल मिलाकर प्रश्नावली चिन्तन की ओर उन्मुख करने वाली नहीं बन पड़ी और महत्त्वपूर्ण तथ्यों से पिंड छुड़ाकर केवल कलेवर विस्तार की दृष्टि ही लेखक की रही ।

शंकरलाल माहेश्वरी "शैलेश"
रा० नारायण उच्च माध्यमिक शाला,
बिजयनगर (अजमेर)

Received the Jan. – March '72 issue of the Naya Shikshak. Shri A. K. Jain's 'Self-evaluation of a Teacher' makes an interesting reading. Shri Shyamlal Kaushik has rightly bemoaned lack of Psychological Perspective in our teaching programmes. Shri L. N. Gupta has argued for linking adult education with life but this should be for the entire gamut of education. In this connection Shri B. S. Goel's remark is very apt that since independence two things have not changed viz. administrating set up of I.A.S. and the educational system. Mr M. C. Sharma's rejoinder to Shri V. V. John is quite effective and stimulating. As regards the phenomena of student's unrest, I have for long been an advocate of treating it as a psychological malaise rather than a law and order problem. One word about the Journal, I have very much liked the idea of you giving abstracts of the articles which gave the Journal a bilingual character. Organisation of contents and the get up speak of your professional skill.

S. R. Bhatt
Delhi University,
Delhi.

"Emerging Role of Teachers in Developing Countries"

Prof. O. S. Dewal in his thought-provoking article on 'Emerging Roles of Teachers in Developing Countries' in Oct. – Dec. 71 issue of your Journal has dwelt at length on programmed learning and teaching technology. No doubt, the latest trend in modern education is towards programmed learning and teaching technology through Television, Teaching Machines, PLM and other audio-visual aides, but some difficulties are implicit in introducing these processes into the realm of Indian Education. Firstly, inservice teachers are not prepared well in advance through systematic inservice training courses. Secondly some of the following hurdles in making the new process successful are mostly overlooked :—

1. Financial implication at every level,
2. Lack of orientation of the administrative officers,
3. Lack of research to suit the local condition,
4. Bureaucratic domination of educational administration,
5. Younger and dynamic teachers have to play the second fiddle,
6. Lack of physical facilities and overcrowding,
7. Ill-equipped libraries,
8. Lack of study habits among teachers to keep themselves abreast of the latest trends and findings,
9. Lack of leadership in Teachers' Colleges,

Prof. Dewal says that Teacher programme system can yield the highest and the best dividends to the students, but he does not support his assumption with any research findings.

I would appeal to the pioneers of this latest process to ponder over these problems and suggest remedial measure for improving the existing state of affairs.

H. R. Justa
Simla-1 Editor, Himshiksha

"Hang the Headmaster"

I have gone through the article "Hang the Headmaster" contributed by Mr Mali Ram Sharma. The article is a fine exposition on the awkward condition of today's headmasters. Its language is scholastic and superb. Mr Sharma has very successfully and vividly thrown light on the snags and hurdles that come in the way of a headmaster in every nook and corner of this country. It is hoped that the concerned authorities, guardians, teachers and pupils will change their attitudes after reading this article. Really the headmaster

is a creature who has to please many people like a shop-keeper.

R. Niranjan

Bal Niketan,
Pilani.

हैडमास्टरी का पंथ

अप्रेल-जून १९७२ के "नया शिक्षक" में प्रकाशित श्री मालीराम शर्मा का लेख Hang the Headmaster बहुत पसन्द आया। लेखक की यह उपमा कि जिस प्रकार प्रत्येक नारी को माता बनने की आकांक्षा होती है, उसी प्रकार प्रत्येक अध्यापक को प्रधानाध्यापक बनने की आकांक्षा होती है, खूब फिट बैठी है। वस्तुतः प्रत्येक अध्यापक के मन में प्रधानाध्यापक बनने की ललक होती है। किन्तु, प्रधानाध्यापक बनने के बाद परेशानी ! परेशानी !! और परेशानी !!! जी हाँ, परेशानी ! कभी विषयाध्यापक की कमी की, कभी अधिकारियों की भर्त्सना की, कभी साथी अध्यापकों की कर्त्तव्य- विमुखता की, कभी छात्रों की तथाकथित अनुशासनहीनता की, तो कभी अभिभावकों के असंतोष की। इन सभी परेशानियों से लदा-पद बेचारा प्रधानाध्यापक दया का पात्र ही तो है।

इस पर उच्च प्राथमिक विद्यालय के प्रधानाध्यापक का तो और बुरा हाल है। उसका काम तो माध्यमिक/उच्च माध्यमिक विद्यालय के प्रधानाध्यापक से कुछ ही कम होता है, फिर न तो उसके पास लिपिक ही होते हैं और न पर्याप्त संख्या में अध्यापक ही। केवल पच्चीस रुपयों के उपवेतन के पीछे कई समस्याओं को लादे फिरो।

फिर छात्र पढ़ना नहीं, पास होना चाहते हैं; अध्यापक पढ़ाना नहीं मौज मारना चाहते हैं; अभिभावकों को पढ़ाई की नहीं, सुपुत्र के पास होने की गर्ज है; उच्चाधिकारियों को खासा आवभगत की फिक्र है; तो आडिट पार्टी का खासा सम्मान भी आवश्यक है; छात्र-निधि में राशि कम है और खेल-परीक्षा का खर्च इतना है कि पटरी बैठती नहीं। तो भी..... कैसे भी काम तो अच्छा होना ही चाहिए। गर्ज है कि चाहिए ही चाहिए की भरमार है, जो प्रधानाध्यापक के न्यूनतम कार्य की परिचायक है। इसीलिये बरबस कहना ही पड़ता है कि–

यह हैडमास्टरी को पंथ कराल महा,
तलवार की धार पै धावनो है।

जगदीश व्यास

गणेशनगर, यूनिवर्सिटी रोड
उदयपुर

●

Time to see the Wood

Use your sabbatical (if you ever get it) to stand far enough away to see the wood for the trees, and think out ways of lightening your daily burden of teaching by putting more of the onus on to the pupils where it belongs. If you find this only bewilders your pupils then you have uncovered the real problem—'when I take their crutches away they fall down.'

—**John Kirkham**
THE TEACHER, March 17, 1972, pp. 16.

Special

EDUCATION IN THE YEAR 2000

1. **J. S. Mehta** : Let us Plan for Education in the Year **Two Thousand**

2. **Torsten Husèn** : Education in the Year **2000**
[An International Document from Sweden]

Let Us Plan For Education In The Year Two Thousand

J. S. Mehta

POPULATION is growing at an alarming rate of 24.8%. By the year 2000 A.D. we will be double of what we were a decade ago. Population grows in geometrical progression while economy grows in arithmetical progression. Therefore, only a well thought-out education plan for thirty years hence, may help us tide over the impending catastrophe. Education is primarily concerned with all-round development of the individual—body, mind and spirit. It is a determining single force, which nurtures an individual according to his capacity and aptitude. It readjusts or realigns with the demands of fast changing patterns, sociological, psychological and economic, of the society. Education, therefore, is a dynamic and a growing process.

Technology is developing at a fast speed; jobs for unskilled are steadily decreasing; and number of young people, who are completely unprepared to man skilled jobs, is swelling. All these factors contribute to social unrest. Career-oriented education is the answer to the problem. Fervour for vocationalisation of education may not lose sight of firm belief in dignity of labour and a deep faith in our cultural heritage, and social, political, religious and economic institutions.

Education for essentially 'work-directed' society cannot be allowed to grow in a haphazard way. It needs a sound planning drawn on scientific data. The Union Ministry of Education should create a department of planning, well staffed with a large number of eminent experts from various areas of general, vocational and technical education, and specialised areas of physical sciences. They are not to concern with the present, which becomes past in

Commissioner and Secretary, Irrigation, Power and P.W.D., Govt. of Rajasthan, Jaipur.

a couple of days. They will plan for thirty years hence. They will prepare blueprints, brochures and other relevant literature on probable manpower requirements in the future, and circulate them among states for favour of adopting projects and programmes, that suit their states.

The state ministry of education will set up planning committees at state, district and institution levels for an orderly and balanced development of job-oriented education in the state. Planning committees at institution and district level will hold open-door meetings. Prominent citizens of the area should be invited to participate in discussions and deliberations. They may be encouraged to submit their plans for reducing unemployment problems of the area. Such plans should be seriously studied and, if they are found of use they may be incorporated in their plans. Committee at the state level will study plans submitted by district committees and compare them with that of central ministry's plans and programmes. Then it will draw a comprehensive plan for various districts according to their needs. The plans will be of two types—short term and long term. No decision will be taken either at the spur of moment or outside the planning committee. All plans, short term or long term must be drawn at least a year and more than a year respectively ahead of their implementation, so that projects or programmes may not suffer of financial stringencies and fizzle out. The public involvement in development of education in the area will result in active co-operation of the local people.

Vocational and Educational Guidance Bureau should play a creative role. One of the main objects of the Guidance Service is to keep a right man at a right job, so that, he is able to give his best. Counsellors at guidance service centres study market requirements of manpower, and advise students at delta classes to choose those careers, which suit their aptitudes and where suitable job opportunities are available. It will check an ever growing number of dropouts, reduce wastage and stagnation, and will help in preventing unemployment and overcrowding particular jobs. It may prove a powerful agency in providing rehabilitative educational programmes for delinquents or maladjusted. It may assist both teachers and students understand each other and adjust themselves. It will provide data about students, which are necessary for development of curricular planning.

Importance of Parent-Teacher Association cannot be overlooked in the development of educational programmes and projects. PTA is expected to invite parents with special talents to conduct hobby classes in Arts, Science, Music,

Drama, Story Telling etc. It may assist in arranging educational tours or raise voluntary contributions for building an auditorium, a laboratory, or a cycle shed in the school.

Expansion and orderly growth of education related to manpower requirements are very essential, if democracy is to run successfully. A developing country, beset with financial stringencies, has to husband every available resource and make the optimum use of it. Shortage of buildings, physical plants, furniture, qualified teaching personnel etc. can be overcome by their intensive use. Schools and colleges may be made to run in double or triple shifts, where pressure on admission is heavy. Institutions are temples of learning. They should never be closed. If proper climate for sustained work is created, teachers, students and local community will discover innumerable uses of the institution. Single shift schools can run Day and Night Study Centres for students belonging to poorer sections of the society, who do not have proper facilities for study at their homes. Villages and small towns, where students come from nearby hamlets, may be provided with sleeping accommodation by converting classrooms into dormitories, provided, a cloakroom and an improvised kitchen are available. With the provision of some supervision and guidance by some teachers, the project may prove of immense help to rural students. Alternate holidays and vacations for each shift in double shift institutions can give more working hours. Reduction in holidays is also necessary. The long established tradition of having summer vacation needs be reconsidered. Any way its duration should be shortened. On holidays and in vacations school building may be turned into holiday homes. Programmes of summer schools and of working holidays can be arranged in breaks and vacations. Remedial classes for backward, slow and retarded, and enrichment classes for bright and promising students may be run in school building during vacations. Evening classes for inservice students, which may prove forerunners of co-operative education, should be run in institutions. Full utilisation of the equipment and the building is and will be the crying need of the society.

Unplanned expansion has not only resulted into regional imbalances but also loss of rural talent. Uneconomic institutions may be closed down and money thus saved may be utilised for equipping and developing institutions located at central places in each district. A phased programme for toning them up may be drawn. They will have all the streams, humanities, science, commerce, agriculture, fine arts, technical and vocational faculties

etc. according to the needs of the area. These institutions will be provided with proper campus – well-equipped laboratories, good library, qualified teaching personnel, hostel, teachers' quarters etc. Poor students from rural area, where educational facility is not available, may be given a stipend/scholarship of Rs. 50/- p. m., if they deserve it on merit-cum-need basis. Thus the campus will gradually grow into a very good educational colony in the heart of rural area, and will have good social, cultural and academic atmosphere. It will improve educational standards, would become a pace setter for other institutions and would also check the rush of students to the cities and towns, where the educational institutions are already over-crowded.

One of the main defects of present educational system, in spite of revolutionary changes in its curricula, is that it continues to produce 'babus' only. It does not prepare students for self-employment or vocation. Mahatma Gandhi noticed this inherent deficiency in our educational system. He gave the idea of Basic Education. But unfortunately Basic Education was not given a fair and sincere trial in spite of all tall talking and lip homage paid to it. Instead of introducing modern crafts it was tied fast to a spindle and a spinning wheel beyond redemption. The result is obvious. The same idea of Gandhiji is receiving special attention in most of the countries both in the East and the West.

Curricula at secondary and higher secondary stages suffer from three major defects : Firstly, it is completely geared to higher academic education, even though only 20% of higher secondary students go for higher education. They do not have terminal courses. Secondly, they are tied to public examinations. Thirdly, they are rigid. They do not cater to interests and aptitudes of individual students. These curricula need thorough recasting in the light of the needs of a socialist society. They must prescribe two types of courses: one terminal in character, called ordinary course for ordinary students; and the other, advanced course for students with academic aptitude. Education for both the courses, at secondary level will mostly be general in character; no proficiency in either course is expected. Specialisation takes place at higher secondary level. Courses at higher secondary level, like most of the countries, should be of two years duration instead of one. Rigidity in curricula must yield place to flexibility. Besides languages and cultural history, there should be a wide choice of electives. Students may choose electives of their taste and develop their talents to optimum potential. Dropouts, stagnation and wastage at various

levels of education are bane of rigid curricula. The social and economic wastage can very well be plugged by courses which may turn them into productive hands, say, of masonary, of automobile and of a lot of other undermanned jobs. Students of O courses may join higher course for specialisation in their subjects, if they show aptitude by securing A grade in their courses. Career-oriented O courses will divert a large number of students from higher academic education to technical and professional institutions. Higher Secondary (12 years course) should be the qualification for all competitive service exminations, and for all types of higher professional and technical education. This will relieve institutions of higher academic learning of the heavy drain. Only a few with an urge for higher learning will join them, and make them real temples of learning in place of present crowded and buzzing shelter houses for aimless youth.

Education not related to manpower requirements of the country, is not likely to paint a rosy future for its citizens. Educators, therefore, are seized of the problem so seriously, that they are not only planning for the present but also for the year 2000 A.D., when citizens will gain more power, and new power over themselves and their creations. They will have to be brought up in such an effective manner that they may play a dynamic role in the society to come. Vocational education, therefore, cannot be treated as a separate discipline, like English or physics. It is an approach to the subjects and a learning process, which, if properly used, reconstructs educational system for greater relevance of the general education and a renaissance of the general liberal art studies.

With the adoption of Kothari Commission Report, we have started rethinking on basic education lines. We are introducing craft and trade under a new label of work-experience. Marvin J. Fedman has beautifully defined work-experience as 'that aspect of an educational experience which helps a person discover, define and refine his talents and use them in working towards a career'. The work-experience will provide opportunity to the pupils, who are full of enthusiasm and energy, for utilisation of their leisure productively, otherwise, they would while it away in gossips, would fall in bad company and might become a nuisance to the society. Work-experience need not be confined to crash-programmes. It must impart knowhow technique of the job instead of trouble shooting operation. In the space-age of technology job-patterns change rapidly. By the time a man is trained in a specific job-pattern the prospects of the particular job-pattern may disappear. The chinese proverb, 'If you give a man a fish he will have

a single meal; if you teach him how to fish he will be full for the rest of life', drives the idea of the work-experience home. Rajasthan has taken one step forward by introducing Earn While You Learn Programme. It is voluntary at present; but it has a wide scope of development in future. Students are required to work before or after school hours, or on holidays. They are paid out of the profit earned by sale of finished articles. Thus students are motivated to work. Gradually they acquire interest and love for labour, and develop some skill, however rudimentary it may be, with a possibility of refining it in future.

The chief aim of an educational institution, besides imparting knowledge, is to provide adequate opportunities and varied experiences to a student for enabling him to discover his latent talent. In order to make a student's latent talent patent he should not be tied to one specific craft, which is of general and exploratory nature upto secondary stage. Its aim is to create occupational awareness in a pupil and to make him understand his abilities, interests and potential. He, therefore, should pass through a cycle of crafts upto upper primary level. They should include minimum of three areas. The three areas are:

Home Science : food, clothing, child care, interior decoration, hotel and motel services.

Business Education : business machines, shorthand, stenography, clerical services, distributive education.

Science : health services, horticulture, education, technical education, laboratory service, photography.

Teaching of vocations should not be confined to classrooms only. Pupils must be taken on field trips and job visitations. Stimulating talks by professional experts, and interviews for students may be arranged in order to make student understand practical aspect of the vocation. This type of teaching will help pupils gain success and self-respect, discover new interests, develop more realistic goals and self-concepts, and make wiser course selection in higher classes. It would impart some skill to the student.

Flexible curriculum is imperative for imparting education to an individual according to his capacity and aptitude. Flexibility in curriculum and public examination cannot go hand in hand. Public examination deals with masses and not with individuals. Our education system is public examination centred. One who is able to manage a good division either by cramming answers of a few selected questions, by reading sketchy notes or by any other means like copying etc. is acclaimed as a bright one. Examination as a matter of fact is

not a test of comprehension but mostly of memory. Though examination reforms are being carried out by the Board of Secondary Education, Rajasthan and Universities, much remains to be done in this direction. Ultimately we shall have to trust the integrity of teachers in general as we are doing at professional and technical colleges. The process may be slow and cautious. Autonomy may be granted to pilot schools in the state as an experimental measure. They may be empowered to draw their own curricula within the frame work of the outlines of curriculum prepared by the state department, and to issue their own proficiency certificates to the students, who successfully pass out of their portals. An aptitude test may be administered to those students, who want to join higher education - academic or professional by the Board of Education.

Crisis in character is a major challenge with which educators have to deal with. It is responsible for unrest in youth. It is the progeny of materialism, which has enveloped spiritualism. Hippyism is an extreme pointer of the crisis in character, from which a modern youth suffers. Religion has failed to bind him with the established norms of behaviour, or to guide him to follow accepted values of the society. Organs of materialism—political, cultural and recreational are helpless in evolving standard values, which can be accepted by the modern youth unreservedly. It is not the creation of education; but it cannot absolve of its responsibility to face the crisis, and rehabilitate the youth, if the society is to function purposefully. The youth must be trained to use his reason, in an hour of the conflict of opinion, creatively; he must be vigilant and preserve unique and distinctive character of the culture even in space-age. Tried youth welfare activities such as scouting and guiding, red cross, N.C.C., sports and games should be popularised among them.

Our present educational system is not bad; but it needs to be geared up to the needs of modern society; its deficiencies are to be removed in order to help an individual pupil progress to his full capacity. It will have to be flexible, dynamic, pragmatic and more practical biased if we have to keep pace with rapid advancement of technology and specialisation. Social and economic pressures of the community demand of education to produce blue collars and not white collars, and to develop human values. The success in the great enterprise of national reconstruction by the year 2000 A. D. will depend on the quality and number of persons coming out of schools and colleges. Indeed the wealth of a nation does not depend on physical capital but rather on the capabilities of its people to make the most of what is available. We should not hasten the change; it must be a phased programme. 'If you want to move a mountain you must begin with pebbles at your feet".

सार-संक्षेप

सन् २००० में शिक्षा की हमारी क्या योजना हो ?

– जे. एस. मेहता

जनसंख्या के २४·८% बढ़ने के कारण सन् २००० तक हमारी जनसंख्या आज से

१० वर्ष पूर्व की अपेक्षा दुगुनी हो जायेगी। शिक्षा हेतु केवल ३० वर्षीय योजना के द्वारा ही निस्तार सम्भव है। शिक्षा छात्रों का सर्वांगीण विकास कर उनकी वैयक्तिक योग्यता एवं अभिरुचि के अनुकूल हो तथा सामाजिक, मनोवैज्ञानिक एवं आर्थिक परिस्थितियों के अनुरूप हो।

प्रौद्योगिक विकास एवं शिक्षितों की बेरोजगारी के फलस्वरूप सामाजिक अशान्ति बढ़ रही है जिसका निराकरण श्रम के महत्व को समझते हुए व्यवसायोन्मुख शिक्षा से सम्भव है जो हमारी सांस्कृतिक, सामाजिक, राजनैतिक, धार्मिक एवं आर्थिक परम्पराओं के अनुरूप भी हो। केन्द्रीय शिक्षा मन्त्रालय को विशेषज्ञों का योजना विभाग स्थापित करना चाहिये जो भावी ३० वर्षों की योजना बनाये। राज्य सरकारों द्वारा गठित योजना समितियाँ भी स्थानीय परिस्थितियों के सर्वेक्षण से योजना बनायें। जिला, राज्य एवं केन्द्रीय योजनाओं में सामञ्जस्य रहे। योजनायें उनकी कार्य अवधि से यथेष्ठ पूर्व बनाली जावें।

शैक्षिक एवं व्यावसायिक निर्देशन केन्द्रों का भी महत्वपूर्ण योगदान होगा। सही व्यक्ति ही सही स्थान पर सर्वोत्तम परिणाम देगा। बाजार की रोजगार मांग के अध्ययन द्वारा रुचि अनुसार रोजगार व्यवस्था होगी, बेरोजगारी, अवरोध एवं अपव्यय रुकेगा तथा योजना व्यावहारिक बन सकेगी। छात्रों की अभिवृद्धि, संस्थापन एवं रोजगार विश्लेषण में अभिभावक संघ भी महत्वपूर्ण कार्य कर सकते हैं। विद्यालयों को रिक्त समय में समाजोपयोगी कार्यों में लगाया जा सकता है। विद्यालयों में अवकाश के दिनों को कम करना एवं ग्रीष्मावकाश का उचित उपयोग आवश्यक है। विद्यालय कैम्पस, जिनमें सभी सुविधायें उपलब्ध हों, लाभदायक होगा। पाठ्यक्रम में समुचित संशोधन किये जाने चाहिये जिससे वे उच्च शिक्षा के अनुरूप, परीक्षा पद्धति की जकड़न से कुछ मुक्त एवं छात्रों में रुचि जागृत करने वाले हों तथा उन्हें चयन का क्षेत्र दे सकें।

शिक्षा जन-आवश्यकता एवं जन-शक्ति के अनुरूप हो। कार्यानुभव का भी छात्र विकास में पूर्ण उपयोग लेना चाहिये। कार्य कराने मात्र की अपेक्षा छात्रों को कार्य करने की क्षमतायुक्त बनाना अधिक उपयोगी होगा। राजस्थान में सीखो कमाओ योजना ने प्रेरणास्पद कार्य किया है। गृह विज्ञान, व्यापार व्यवसाय एवं विज्ञान सम्बन्धी प्रवृत्तियों में छात्रों को रुचि, योग्यता एवं परिस्थितियों के अनुकूल प्रेरित करना चाहिये। छात्रों के व्यावसायिक क्षेत्र के व्यावहारिक कार्य पर पूरा बल देना चाहिये।

छात्रों के चरित्रनिर्माण की ओर पूर्ण सावधानी न होने के कारण उनमें विद्रोह एवं अशान्ति पनप रही है। भौतिकवादी दृष्टिकोण से हिप्पीवाद को प्रोत्साहन मिला है तथा धर्म के बन्धन शिथिल होकर समाज के स्वीकृत मूल्यों, मान्यताओं एवं मर्यादाओं का उल्लंघन हो रहा है। समाज सेवी प्रवृत्तियाँ यथा स्काउटिंग, रेडक्रॉस, एन. सी. सी., खेल-कूद, छात्रों के अभीष्ट सुधार में सहायक हो सकते हैं।

वर्त्तमान शिक्षा प्रणाली को समाज की आवश्यकताओं व आकांक्षाओं से सम्बद्ध करना होगा। इस हेतु इसे लोचदार, प्रगतिशील, प्रयोजनपूर्ण, व्यावहारिक एवं परिस्थितियों के अनुरूप बनाना होगा। सन् २००० की शिक्षा से प्रभूत छात्रों की योग्यता एवं गुणात्मकता से ही राष्ट्रीय सफलता सम्भव है। [वि. वि. ला. मा.]

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AN INTERNATIONAL DOCUMENT FROM SWEDEN

EDUCATION
IN THE YEAR
2000

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INTRODUCTION

"Education in the Year 2000" was a research project sponsored by the National Board of Education and commissioned to the Educational Research Department of the Stockholm School of Education. The project was directed by Professor Torsten Husén, who was assisted by Mr Karl-Henrik Larsson. The main report from the project was published recently in Swedish (T. Husén : *Utbildning år 2000)*. The present publication in English draws upon material included in this report. The fact that part of the material has been used as a basis for oral presentations at international meetings is reflected in the style.

The project team has tried to stimulate a number of outstanding educational experts in Sweden to discuss some basic problems which Swedish education today and probably tomorrow is facing. This approach together with interviews and questionnaires has been part of an attempt to make planners and policy-makers more articulate about the decisions they are taking today. Some of the reactions to the basic issues raised in the first three chapters are presented in the fourth chapter.

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1

The Purposes of Futurologic Studies in Education

1.1 Introductory remarks

The young people we now have in our schools will be entering the most productive, and publicly the most influential, period of their lives in 20 to 30 years, i.e., towards the end of this century. The objectives of the education that the school gives them, and the content of the instruction they are subject to, must obviously consider that it is not today's society—much less yesterday's – that these youngsters will take charge of, but rather a society which lies only a few paltry (but oh so important) decades ahead of us, when we reflect upon the process of change that has swept across this society at an accelerated rate, especially since 1945. Accordingly, contemporary educational planning must allow

for the effects it is likely to have on the society – not to mention the world – that we are going to have 20-30 years from now. Not even that will suffice, however. Let me take the following illustration. The Swedish *Riksdag* passed legislation on a new system of teacher training in 1967, and the first crop of teachers under the new system emerged in 1969(1). These teachers are expected to be active professionally for an average 35-45 years to come. They will be teaching young people whose own productive lives will run for about 50 years. This is by way of saying that the teacher-training decisions taken during the 1960's will have repercussions up to the mid-21st century.

The foregoing remarks should suffice to justify futurologic studies in education of the type which seeks to define the consequences of present-day planning and decisions for tomorrow's school. Could it be that the schools of three decades hence will bear little if any resemblance to the time-honoured type we know today ? In the present century, at any rate, "education" and "school" have increasingly come to be regarded as synonymous concepts. In Sweden, the establishment of a compulsory elementary school was accompanied by the formal abolition of the guild system, within whose institutional framework training for the handicrafts had taken place. The apprenticeship system for training in the trades continued to linger on for some time. But during the course of the past century education has increasingly come to be carried on in the institutional forms that regular schooling has established with grades, teacher-led class instruction, tests, marks and examinations. From time immemorial, moreover, we have learned to regard education as a matter exclusively associated with the years of our youth. In other words, the basic and applied knowledge and skills needed to make our way in the world are supposed to be acquired early in life. But already at the beginning of this century the free and voluntary adult education programmes sponsored by the various people's movements developed space, and to a large extent, at least in Scandinavia, these were detached from the institutional school system. The non-formal voluntary system by means of study circles and evening classes long focused on giving a basic general education, on imparting certain skills in e.g. the native language and the society-and-nature orientation that the great masses did not receive from the elementary public education, which after all was rather meagre. In other words, no question of

training for careers or of imparting salable skills was involved. But during the past decade we have been witnessing, at least in Sweden, the onsurge of adult education which aims at bread-and-butter goals. Both the traditional programmes of adult education and, to some extent, the vocationally oriented system of adult education, have operated outside the traditional school framework. As regards the voluntary adult education programmes, one can discern a deliberate effort to move away from the traditional form and towards the goals they serve (2).

Recent developments in adult education have opened our eyes to the fact that education takes in a great deal more than mere formal schooling in the traditional sense. The young people attending school today belong to the generation that has been exposed to television from preschool years and that will be exposed as transmission time increases, just as much to what comes out of the magical cathode ray tube as to what comes out of a teacher at his classroom desk. A moment's reflection tells us that the school's sphere of influence has also diminished in this respect. In the society that we have been entering for some time, education is in process of becoming a lifelong concern for the great majority of people, and thus more than a matter to which one dedicates the years of childhood and youth. In that connection the school as an institution – and under forms that are changing drastically – will answer for only certain limited educational functions.

These sketchy indications should suffice to provide a general background to my principal topic, namely the tasks and methods of futurologic studies and the visions of education that may reasonably be contemplated for the coming turn of the century.

1.2 Three cardinal purposes for futurology

What are the cardinal purposes in education that can be imagined for futurology ? (3) As far as I can see, three lines of development suggest themselves.

(1) Research can be confined to identifying the future consequences of contemporary planning and policy decisions relating to school organization, construction, curricula, teaching aids and teacher training. The layout given to a new school plant implies certain definite notions as to how work will be carried on in the projected building for many decades to come. A structure full with bearing walls, and divided up into classrooms of a certain size, presupposes that these rooms will have a specified number of pupils – regarded as normal for so-called class instruction in today's

situation - who are going to imbibe wisdom that is mainly imparted by specially trained teachers. Planning of this kind more or less rules out certain alternatives where the school's work practices are concerned, alternatives which assume in common that practices will vary and that pupils will become more active. In any event, such planning has the effect of making these alternatives less likely to materialize.

The example just cited illustrates how important it is to clarify the long-range implications of today's school decisions. It also illustrates a vital thesis : futurologists do not aspire—or should not aspire—to explain what is *supposed* to happen but what *can* happen. In his book *Dialog i det fria* (Dialogue in the Open), the Swedish writer Sven Fagerberg has a section he calls "The Soothsayers", especially inspired by an issue about the year 2000 that the American periodical Daedalus, put out in the summer of 1967 (4). This issue was given over to presenting the results of deliberations made by a committee appointed by the U. S. National Academy of Science. Fagerberg has this to say : "Forecasts have... ...a great importance; they compel us to analyze the here and now and to try to understand what is happening at this moment. But they can never tell us what is going to happen." In this way investigation into the future can also help to create that future.

As long as the investigator sticks to analyzing the import and consequences of contemporary planning and policy decisions, he stands on pretty solid ground and does not have to rely too much on what he sees in the crystal ball– or whatever metaphor one wishes to use to characterize the doings of futurologists. But his task immediately becomes more difficult if he takes a step further and extrapolates the statistical trends that are now observable. And he will be tackling a really formidable task if he goes yet one more step to identify those general development patterns and value trends that will dominate society a quarter-century hence. I shall have something more to say about these riskier ventures presently. But first some more viewpoints about the task of making clear the nature of the ultimate commitment that follows from decisions already taken or implemented.

I assume that all parties endorse the rational principle – by paying lip service, if nothing else – that educational planning, as well as social planning in general, in our changeable society ought to aim at maximum flexibility, the object being to keep open as many acceptable future alternatives as

possible. That is a demand which ought to be imposed on those responsible for planning physical facilities, designing buildings, and guiding school construction. Or to put this principle the other way round, contemporary planning should rule out as few alternatives as possible. This means that the futurologist ought to study present-day policy decision-making from two angles.

First, do today's planning and political decisions harmonize with the general objectives of public policy that have been adopted *for the long run* ? Second, what future alternatives have been excised by today's actions ? When the Swedish authorities decided, a few decades ago, to go in radically for centralizing schools in urban areas and shutting down the majority of the small rural schools, they were motivated by the prospect of certain administrative benefits and perhaps economic ones as well : since large-scale educational operation would be more advantageous than continuing with the little red schoolhouse, the latter ought to be closed down. However the transportation of young people to large urban schools which followed from the closures combined with the abandonment of farms to generate a vast depopulation on the countryside. In a recent study, Dr Sixten Marklund (5) has shown that small schools offering middle-department courses (i.e., grades 4–6) do not perform worse than the large schools, indicating that the pure educational advantages of doing away with all the many small rural schools at the lower and middle levels have been of dubious value. On top of that, the social and economic impact on sparsely populated areas has been highly negative.

Politicians are easily tempted to look for short-term solutions to current problems. Which is perhaps understandable considering that they are reminded of their mortality at fairly brief intervals, i.e., at the regularly recurring elections. Hence they readily go astray when confronted with situations where they have to choose between that which imperils themselves in the short run and that which imperils the voters, i.e., society, in the long run.

The administrators, especially if they work in a strongly bureaucratic setting, risk (for partially different reasons) losing sight not only of the future but of the basic meaning of the tasks they have in hand at the moment. Current worries, the day-to-day routine, often assume overwhelming proportions, or are perceived to be so overwhelming, that no time is left for thinking in terms of the "long

pull". Now it happens to be the very essence of bureaucracy not only to build empires but also to become so engrossed in the formal and technical perfection of a present pre-occupation that questioning the real meaning of what one is doing seldom if ever comes to mind. A brilliant, and illuminating, document on this point is to be found in *Grisjakten* (The Pig Hunt), the book written by P. C. Jersild. Secretary Siljeberg is so absorbed with the task his boss in the Ministry has assigned to him – to exterminate all pigs in Sweden as efficiently as possible (starting with the experimental district of the island of Gothland) – that he never stops to ask what purpose all this technical perfection is really supposed to serve.

There is something else which impedes the bureaucratic-political establishment from inquiring into the future consequences of its present actions. During the past five or six years we have seen how protests – voiced not least by today's youth – have become increasingly clamorous against the imputed penchant of authorities to plan and decide over the head of the common man (6). It is contended, not without reason, that an inner circle of technicians and experts, political experts included, steamroller decisions on city planning, road building, school construction and water impounding which fly in the face of what a growing grassroots opinion perceives to be desirable long-range objectives. One example, now very much the object of controversy, is the extent to which private automobiles should be allowed to circulate freely in downtown areas. A great deal of prestige readily tends to hang on questions of this kind. That which was planned a long time ago, when the conditions were different, builds up such powerful convictions and momentum among the bureaucrats that it rolls on with juggernaut force. Experts and persons in authority who have long worked on and sweated over the issues thereby feel they have become privy to a higher insight, and not seldom they put on a stiff and even supercilious tone towards the protesters. In other words, they "know better".

(2) The futurologist can try to determine certain trends expressed in numerical terms, such as school enrolments. development of costs and use of teaching aids, and then extrapolate these trends, e.g, find out in which direction the curves are pointing. This kind of peering into the future, which amounts to drawing upon demographic data to compute the need for school plants and their sizes, has become routine nowadays in both the local and central school planning that

is pursued in most quarters. Yet it was not more than a few decades ago that no one in Scandinavia even seemed to think it possible to predict with great accuracy the number of children that would be starting school six or seven years after a certain cohort was born !

Even so, attempts to extrapolate trend curves can have their parlous sides. An example is the estimate of the supply of and demand for special subject teachers that was made by the 1955 Commission of Inquiry into the Swedish Universities. When the Commission published its special report in 1958 (7), it went on record as saying that secondary school teachers would already be in surplus by the early 1960's, and that the surplus would grow as the decade progressed. The analyses were based on the reported number of secondary school leavers having completed a *gymnasium* program and passed the *studentexamen*, together with the number of matriculants and degree takers at the faculties of arts and sciences up to the mid-1950's. It could be established that the number of leavers from the pre-university school by and large had increased linearly from 1940 to 1955. The assumption was that this would continue till the mid-1960's, at which point the curve would level off, since the increase could not very well be expected to go on as in the past. Further, it was assumed that first-year enrolments in the arts and sciences faculties would not mount substantially. Lastly, the experiences gained from the pilot programme with the nine-year comprehensive school were drawn upon for that proportion of pupils in the upper department (grades 7-9) who had made so-called academic options, which was largely identifiable with the percentage of an age group who had elected to study two foreign languages. It did not take more than a few years for the actual course of events to confute all these assumptions. The curve for secondary school leavers turned out to increase not linearly but exponentially, i.e., at a geometric rate. Not only that, but the subsequent course of events has been described as an "educational explosion", and rightly so. By the mid-1960's, when the incidence of *studentexamen* was supposed to have levelled off, the acceleration was greater than ever. Far from stagnating, new admissions to the arts and science faculties increased sharply. The number of pupils with so-called academic choices grew apace, especially after the basic school reform of 1962, so that the proportion of pupils making such choices rose to more than two-thirds from about one-third during the 1950's. With the introduction of a universal basic

school in 1962, followed by reforms of secondary education in 1964, the educational opportunities were expanded far beyond the prospects envisioned in 1958, and all the earlier forecasts were shattered in the bargain. The predicted surplus of Swedish and modern language teachers in the early 1960's never eventuated. As for the liberal arts graduates, the much talked about surplus turned out to be a hampering shortage, which for a time even exceeded the shortage of mathematics and science teachers in certain parts of the country (8).

I have not picked out this example in order to act wise after the event, but because I feel a generous helping of imagination is called for when one tries to extrapolate development trends. In this particular case the acceleration tendencies which already existed ought to have given cause to think about the role of education both as investment and consumption, and hence about its attractiveness as well. If such reflections had been allowed to govern, the forecasts could have been corrected. It should also have been possible to predict the short-range effects of broadened educational opportunities.

(3) Social and political values are legitimate objects of research for the futurologist. For example, he can study how a pluralistic and a monolithic society respectively function in educational terms. However, the futurologist cannot avoid being drawn into the debate about what kind of future society that is being sought. In so doing he can indirectly help to create values and promote their adoption. The appearance of tomorrow's society does not follow in any clear-cut and mechanical way from the scientific and technological potentials we have today, and probably not from the ones at our command tomorrow, either. The crux is *if* and *how* we intend to use these potentials. That is determined by the social preferences, i.e., by the prevailing values. Medical science can give us formulas on leading a way of life that will keep us in good shape physically and mentally. But none the less we put ourselves in situations, both on and off the job, that induce stress and break us down physically and mentally. We allow the waste products of technology to spoil our environment to the stage where it poses health hazards not only for coming generations, but also for ourselves.

Will the values that fix priorities and preferences look essentially different two or three decades from now ? Will science and technology be more greatly harnessed towards creating a better and healthier environment ? And what about

notions as to what constitutes the "good" life, the life worth living? The Protestant ethic (*pace* Max Weber), under which everyone was supposed to stick to his last, and which suffused the life ideal of a large part of my generation in the Westeren World (and in the socialistic countries, too, for that matter) may be superseded by another ethic. As long as the "sweat-it-out" ethic dominates, the awarding of marks on the basis of individual performances in competition will continue to dominate in our schools. The curricula can then talk as piously as they want about group work, cooperation, consideration and social maturity.

Many signs suggest that here, as in so many other areas, the revolt of youth is touching off what Nietzsche called a "reappraisal of all values" (9). Thus we have a growing younger generation who oppose the toiling philosophy of their elders and who no longer want to give top priority to traditional status-promoting achievements in school and the job world. Obviously, such a reappraisal cannot help but strongly influences the school's assessment of the progress its pupils are making.

Hence one of the cardinal tasks for futurology will be to venture predictions about how priorities are going to look in another few decades. What will then be considered essential and inessential? What will one be living for ? All of us have personal experiences of how the value accents can shift in a relatively short time. My own generation was not confronted with the problems that relate to the atomic bomb and the developing countries. We rested, ingenuously, if not securely, in the assurance that the Western way of life was superior and our technical civilization unbeatable. There was no talk of technology being able to harm us in any way; it could only make life richer, better and elevate us to higher and higher standards of living.

I do not propose here to elaborate on how one undertakes to find out about tomorrow's value priorities. If we look at what has happened to change social and political values during the past century, we often detect certain advance signals of what is in store where needs and values are concerned. Such a study will disclose that events constantly thrust up avant-gardists, many of them leading writers, whose ideas and reactions portend the coming shape of dominant values. These signals that point ahead to the future are to be found among writers, artists and intellectuals, but even more so among articulate young people (10).

These young people will take over

the society of tomorrow. By investigating what they hold to be questions of vital importance, we can arrive at a broader understanding not only of what they accord top priority as young people, but also of what they may be expected to consider most essential in their adult years. The Swedish National Board of Education recently published an attitude survey whose main purpose was to provide source data for instruction in religion (11). A questionnaire administered to 1,300 pupils in grade 2 showed that racial problems and questions of human dignity headed the list of philosophical and ethical topics which concerned pupils at the age of 16.

The American investigators who concern themselves with educational policy research have made extremely interesting attempts to map out how vital questions are perceived by more articulate and "deviant" youth, respectively (12). A group of high school students, all of them engaged in putting out "underground" school newspapers, were invited to a conference, where they gave uninhibited expression to their views of the older generation and the existing society, and portrayed the kind of society they would like to have in the future. Another study included the "hippies" of San Francisco. A third tied in to an ongoing international study in 25 countries which seeks to elucidate the value orientations, attitudes and political opinions of university undergraduates.

When I read the analysis of the taped proceedings from the conference attended by the young high school editors, I could not escape the reflection that young people now seem to be reacting in the same way more or less universally. After all, these are individuals who experience the world and its problems more directly and tangibly, not least through the medium of television, than earlier generations, and for whom there exist quite different means than in the past for the common sharing of experience.

According to these youngsters, the school is out of touch with the important things that are happening in the world and is also trying to protect the pupils against unpleasant realities. They consider themselves "manipulated", with the school acting as a propaganda machine. One of them said : "The school system has become an efficient factory in which we are the raw material, who under the pressure of the marking system are turned into automatons and conformists for sale to the highest bidders in the business world". Another student said : "What I want more than anything else in the school is interaction between ideas and feelings, and not just neutral, gray knowledge. I want us to get accustomed to people trying to convince us about things".

I should like to comment briefly on both these quotations, since I picked them out in order to illustrate a favourite idea of mine. The day can not be far off when we stop adhering to the illusion that textbooks or teaching aids in general are supposed to present "objective" knowledge (13). Efforts in that direction make the books so neuter and dull that they cannot possibly stimulate the motivation of pupils. The latter-day debate in Sweden for instance about the tacit value assumptions in the textbooks has shown us, that we must try another approach. Quite simply, this means that pupils must be put in touch with the debate and clash of opinions in the larger society outside the school; in other words, that the school systematically expose its pupils to these views and train them in their discussion. We shall be living in a society where intentions are becoming more imporant than opinions.

Futurology, not least that concerned with development trends under alternative 2, confronts this crucial question : What trends shall be selected for extrapolation ? Some of these trends will be decisively influenced by the policy that is based on future assessments of priorities. Other trends will probably remain more stable. It therefore becomes essential to design "alternative futures", all according to the congeries of value assumptions one makes (14).

As for the type of society represented by the industrial countries, it is likely that several of these trends will be reinforced in the future. Just how they will develop mathematically, i.e., linearly or exponentially, will depend *inter alia* on the future's value preferences.

We cannot devise sensible future alternatives unless two fundamental conditions are in hand : (1) we regard education as an integrated system, which means we do not confine ourselves to the school-type subsystems in the conventional sense; and (2) we view the educational system in its social, economic and political context. What this boils down to is an attempt to design "comprehensive" future alternatives (15).

The factors which characterize the educational system as such are here called endogenous, whereas those influences which derive from the total social context are called exogenous. Accordingly, efforts to design alternative futures must embrace certain assumptions (more

or less correlated with one another) concerning both kinds of factors, on the one hand assumptions about the society at large and on the other about the educational system as such.

1.3 Assumptions about the society at large

(1) Economic growth will offer opportunities for increased consumption in different respects (better material standard, more leisure, more education and culture).

(2) The process of change will accelerate in essential respects, e.g., concerning the manufacture of goods and the provision of services.

(3) Greater international exposure is to be expected by virtue of mass media and travels.

(4) An accelerating flow of information will have to be coped with both on the production side (scientific research) and on the distribution side (mass media, computer technology).

(5) Gainful employment as a means of obtaining life's necessities will become increasingly unimportant. An increased amount of goods and services in the highly industrialized (countries will be available to the masses).

(6) Increased influence for experts, with a tendency towards meritocracy.

(7) Increased pluralism, at least for a transitional period, as regards life outlooks and values.

(8) It will be increasingly difficult to maintain a balance between the ecological system and technology (owing to pollution and ravages of nature).

These assumptions obviously present varying degrees of plausibility. The first four appear to intercorrelate highly and their current manifestations are so patent that they should be considered very plausible. By contrast, the four last assumptions are more debatable, one reason being that contemporary values will supposedly carry over by and large to the future, e.g., that education will continue to be a strong status-promoting factor, or that technological advances which make for greater benefits now are bought at the price of tomorrow's devastation. To my mind, the most debatable assumption is the one about increased pluralism.

1.4 General assumptions about the educational system

Now, what assumptions can we make about the future educational system ? Before going into details, I should like to single out what ought to be regarded as the most important overriding conditions for tomorrow's learning society, where it will become increasingly urgent

to work out "systems solutions" and not merely short-ranging partical solutions(16). Three such conditions make it particularly acute to formulate systems solutions, namely (1) the enrolment explosion, the increased proportions of more and more cohorts who are going in for full-time education; (2) the knowledge explosion, which aggravates the problem of processing, storing and communicating information; and (3) the need to individualize instruction, i.e., to enable every individual to learn at the pace and with the breadth and depth that suits him best, in short the demand for greater specificity in the process of imparting knowledge and skills. Individualization in our schools will soon become a necessity, not a luxury as heretofore.

Now, what can be specifically assumed about the future educational system that looks more or less plausible ?

(1) Education is going to be a lifelong process. The type of school associated with youth will not provide the fare on which one can subsist for all time.

(2) Education will not have clearly defined "cutoffs" as in the past, beginning with an entrance examination and ending with a near-dramatic climax, such as a secondary school examination or a university degree. It will become more of a continuous process, both as regards its effluxion over time and its embedment in the other functions of life, particularly work.

(3) Education will take on a more informal character as it becomes accessible to more and more individuals. In addition to "learning centres", facilities will be provided for learning at home and at the workplace, e.g., by the installation of terminals.

(4) Formal education of the type that used to take place in conventional school plants will, as it becomes accessible to more and more individuals, also become more meaningful and relevant in terms of its applications.

(5) To an ever increasing extent, the educational system will become dependent on large supporting organizations or supporting systems. Agencies of this kind, whether they be public or private, are needed to produce systems of teaching aids, systems of information processing, and multi-media instructional materials. The information systems arrived at will consist of carefully tried-and-tested storage and retrieval components. One of the problems involved will be to create "compatibility" between medium and receiver.

For me it stood out as fairly self-evident more than ten years

ago that the basic school of the future would have to concentrate on inculcating certain fundamental learning skills. It would have to impart skills and knowledge for two purposes: to train for general citizenship and to qualify the young for the initial training needed for certain occupations. Further, it would have to prepare the young for changing careers, for instance by providing a basic repertoire of skills as well as attitudes of flexibility and a taste for more, a motivation for going on with education.

In the light of these remarks, the following objectives seem to me paramount. Some of them may be regarded as controversial because they proceed from values which also form part and parcel of political judgments.

(1) It will be increasingly important for democracy to create the broadest possible frame of reference for knowledge, skills and attitudes. The production and uses of information will become more and more specialized. This will readily lead to rule by specialists and experts, which brings formalism and alienation in its train. At the same time that scientific research and high-level education become increasingly important to society, the merits attached to them increase concomitantly. We seem to be headed towards a meritocracy. Among other things, a common frame of reference means making initial provision for a common liberal schooling to the greatest extent, with vocationally oriented specialization to follow much later. The development of communications skills should be so greatly emphasized that the maximum number of citizens will be enabled to speak the same language and hence understand one another.

(2) Basic schooling ought to be of the kind that lays the groundwork for reeducability, for instance by providing what was referred to above as an adequate basic repertoire of skills and the ability to assimilate further knowledge.

(3) The school ought to instil receptivity to change, in other words a flexible attitude conducive to a willingness to go ahead both with general education and vocational training. It should get across a realization that the whole of life will be one long continuation school.

(4) The school must prepare its pupils to live in a society of pluralistic values. Among other things, this means developing individual ability to pick and choose on the basis of certain criteria of authenticity.

(5) Schooling for internationalism and the defeat of present-day educational provincialism is necessary if the world is going to survive.

(6) It will be necessary to build up skills to deal with the ever more torrential flow of information unless we are to be swept away by it. Among these skills are computer language and technology.

(7) Schooling for a life where gainful employment and recreation (in the old sense) will become less and less important, and where "work" will increasingly take on the character of self-realization.

(8) Schooling for comprehension of the importance of maintaining the *ecological* system and technology in balance (involving the whole complex of problems which relate to such things as pollution of air, water and soil, and the wanton exploitation of natural resources).

(9) Schooling in the ability to live as an independent individual, without necessarily having to rely on support in some primary group such as the family.

As I see it, a crucial aspect will be the extent to which education is going to function as a social mobility factor. Will it become increasingly important as a determinant of status (to judge from current tendencies) ? Must we anticipate that the educational system, as regards its school-type subsystems, will remain pretty much institutionalized ? If so, the outlook is for greater bureaucratization in that the system will be run by an establishment of highly educated bureaucrats.

1.5. Specific assumptions about education

(1) General education and vocational training will be more and more interwoven, simply because it will not be possible to predict what specific vocational attainments will be needed in the future. Paradoxically, general education (in the form of a "basic repertoire" of fundamental skills and knowledge) will be the best kind of vocational training. Basic schooling will constitute the foundation for re-educability.

(2) Basic schooling will aim to accommodate the broadest possible common frame of reference of knowledge, skills and attitudes to cope with an era of ever increasing specialization.

(3) Skills (above all those which help in the assimilation of knowledge) will acquire greater importance at the expense of specific pieces of information. It will be impossible to uphold the traditional encyclopaedic ideal of education.

(4) Instruction will become more and more individualized (for instance as more technical resources

are brought into play). Teachers will be "replaceable" by technical aids to a limited extent only, since the central element of pedagogical activity is the personal contact between teacher and pupil. The teacher's duties will be to plan, support and evaluate the course of progress for the individual pupil.

(5) The educative role in a wide sense of the school (as an institution) will decline in importance as increased leisure confers greater influence on the family and the peer groups. Mass media will extend their influence, and television especially so by virtue of lengthened transmission times and an increased number of channels.

(6) Education in the formal schooling sense tends to become more expensive. Since more and more young people (and adults) are studying, while annual costs per pupil are rising concurrently, it appears that the margin set by the overall allocation of resources will soon become so narrow that far-reaching rationalizations in order to achieve a more efficient utilization of resources will have to be put into effect. These may be expected to alter fundamental aspects of the school as an institution. That is likely to have radical repercussions on the erection of school buildings, since their design inevitably proceeds from assumptions about the uses of these buildings for several decades to come.

Now it may be asked : Isn't everything that is supposed to happen happening anyway, regardless of our hopes for the future and our efforts to enlist the help of research towards imbuing an air of rationality to the actual development process ? Can futurology help to create the future ? It might seem as though many technicians and politicians are acting – or failing to act – after the principle of "aprés moi le deluge". Fagerberg has very aptly affixed the label of "No-motion Messiah" to this mentality. I trust I am not indulging in lax quasi-philosophizing when I say that the hallmark of contemporary man is his conviction that he can choose and shape his own future. The traditional run of humanity naturally sees itself as caught up in an unpremeditated and fated historical process, and considers its sole purpose on earth to continue, repeat and reproduce the life that earlier generations have lived. In spite of all, contemporary man is inspired by the optimistic conviction that he holds the future in his hands (17). In spite of all, he entertains the hope that he will be able to write the "scenario" for his own life and for the lives of his descendants. Indeed, he goes as far as to hope that he will be able to stage the drama of life in accordance with the scenario's directions.

Q quoted on the inner title of this issue.

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2

The School in Contemporary Society

2.1. Introduction

The quarter-century that has elapsed since Europe began devoting its resources to rebuilding what the war had destroyed has a period of extremely rapid change. In a recent article the American historian, Arthur Schlesinger Jr. (1970), observed that no other age of history displays a change as revolutionary as the one in which we are now living. The so-called educational explosion is but *one* aspect of this process. In Sweden, the picture around 1945 was for only one of every ten 15-year-olds and one of every twenty 18-year-olds to be in full-time education. Today, everybody goes to school up to the age of 16 and three out of four teenagers voluntarily stay on after that age.

A phenomenon that has received less attention is the explosive growth of adult education. The Swedish programme of labour market training, which relates to the full-time retraining courses sponsored by the National Labour Market Board, has come to embrace about 1,00,000 participants during the ten years it has been in operation. Four years ago the *Riksdag* or Swedish parliament made provision for adult education programmes to be run under the aegis of local government, and these now embrace 90,000 participants. On top of that we still have adult education in the traditional sense of popular education, which mainly involves the participation of some half-million people in study circles. And lastly there are the extensive programmes of in-house training sponsored by private enterprise.

Education in our society is turning into a vital warp in the web of life itself: it is in process of becoming lifelong education (Husen, 1969). Given this background we have reason to ask ourselves: Is the school as an institution changing in character? To paraphrase old Hegel, have the quantitative changes been so great that quantity has transmuted into quality? Can we expect the school, as we educators have traditionally perceived it, to endure into the 21st century or will the educational explosion burst its time-honoured institutional frameworks? It is hardly necessary to elaborate on the importance that the answers to these questions will have not only for our school planning but also for the training we give our teachers. We erect school plants with a physical life of 40-50 years, yet with layouts that imply omniscience on our part as to what is going to take place inside these walls over a period that long. We also assume that the teachers whom we are training today will largely function in the classrooms we are now building according to models that served the people who educated them. But to what extent is that going to be true? This is the big question.

2.2. Tendencies

The very fact of pausing for a moment to make clear in one's mind what has happened in the educational sphere during the past decades, and in so doing try to identify certain conspicuous tendencies in the present situation, can help to broaden the perspective and thus also yield a tentative answer to the question of where the school is heading. The greater part of the discourse that follows will therefore be taken up by attempts to specify certain salient features of the present-day school development. These tendencies

will be presented under a dozen main points.

1. By way of introduction, it is pointed out that the quantitative trend has been such as to warrant coining a new term, "educational explosion", to describe it. More and more young people are staying longer in school, a phenomenon that holds for both the industrialized and developing countries. However, the educational systems are also absorbing more and more adults. In the technologically advanced societies, education tends to become an increasingly salient part of the life pattern, not only in that it claims an ever larger segment of the life-span but also because it tends to permeate the whole of life. A person who does not command a basic, and preferably not too thin and narrow, repertoire of knowledge and skills cannot make out in the modern, post-industrial society. Even less can he assimilate the knowledge and skills demanded of him by the working community.

2. At the beginning of the 1960's the economists showed that education (and research) is a major determinant of economic growth. Hence in order to hold its own in the international competition a country has to invest in education, not least high-calibre training and research. In his provocative book, "Le defi americain" (The American Challenge), J.J. Servan-Schreiber contends that the reason why the Americans have managed to take over so much of the European market and also established themselves with companies in Europe, for instance in the electronics sector, is that the United States has done a better job than Europe of investing in human capital, in other words backed education and development work. Awareness of the strategic role played by education, but as a matter of course also the greater consumption of education that has accompanied improved standards of living, has led to allotting larger and larger slices of the public pie to education, research and development. In Sweden that share now comes to 8 percent of the gross national product, compared with a mere 4 percent some 15 years ago.

3. It was pointed out that education has become an increasingly important determinant of the ability to make out in an increasingly complex society. But also in relation to other career-determining factors it is becoming more and more essential for success in life, for the social status attained by the individual. Some one has aphoristically put the matter this way : educated talent is the contemporary society's substitute for birth and inherited wealth. The safest and most inflation-proof investment parents can make is in the education of their children.

If the foregoing observations are valid, they bring up the question of the extent to which the manifest tendencies towards mertiocracy and rule by experts in today's society will be strengthened in the future. Insofar as education—and, mark you, here we are talking about education at an increasingly professional level – bears more and more crucially upon individual success and social status, it is also bound to become more and more coveted. The consequence will be to intensify competition even more for the places available at institutions of higher learning. The fact that we have in several European countries opened up educational opportunities for all at the secondary level, and before long at the undergraduate university level as well, must not mislead us into believing that we have thereby acquired an educational system with the element of competition removed. The more people who climb high on the educational ladder, the higher up *formal* competition is going to move. At the same time, however, this has repercussions downward in the form of real competition. Japan makes an interesting case in point. When the Japanese educational system was compared in the IEA—project in the mid-sixties with those in some ten European countries and the United States, we found that Japan offered greater educational opportunities up to the age of 18 than any European country (Husen, 1967). More than half the 17-18 year-olds in Japan were in full-time schooling, as against only 10–30 percent in most Western European countries. It might be inferred from this that scrambling for higher marks and jostling one another would be alien to a system such as the Japanese. But nothing could be further from the truth : actually, the extremely keen competition for university admission has induced parents to try to get their children into the "right" secondary school, in the belief that this will put them on the right track for getting into a prestigeous university. But in order to get into the "right" secondary school, the children must be put in the "right" primary school, and for that the inside track is supposed to lead from the "right" preprimary school.

This whole sequence is admittedly described in very schematic terms, and a proper understanding of it would have to allow for certain dominant characteristics of the Japanese cultural pattern that cannot be considered in the present context without taking me too far afield. The case of Japan has been brought out because it represents, in rather extreme degree, features of meri-

tocracy that are more or less present in both socialistic and capitalistic countries where educational opportunities have been broadened at the basic stages. The Soviet Union is another example of keen competition to get into institutions like Moscow University which carry extra kudos of prestige (with the implication that degrees from them guarantee success in careers).

4. Research has not only become highly specialized, which among other things has enormously swelled the corpus of documented knowledge. The rate at which scientific articles and monographs double in output currently runs at less than ten years. In particular, natural-science and social-science research of the kind with very broad applications has evolved into a "knowledge industry" on a big scale, involving huge sums of money and heavy vested interests (Machlup, 1962). The traditional picture of erudite toils in the monastery cell or ivory tower, where the lonely scholar seeks to extract new truths by myopic examination of documents or noctural experiments in his retorts, is far from adequate nowadays, even though it is likely that the process of scientific innovation will always have an important place for the individual working on his own and his cries of "Eureka !"

In consequence of specialization and the increasingly paramount role that research plays in the societal transformation process, the average man in the street finds it harder and harder to take in and gain insight into what the specialists (both those who produce knowledge and those who specialize in applying it) are really up to and what impacts their doings have on society. The individual is filled with a growingly uneasy sense that his fate lies in the hands of technocrats.

5. The system of public schooling that was made compulsory by the mid-19th century in Scandinavia, as well as in the larger part of Western Europe, did not extend its purview past the early teens at the very most. As late as in the 1930's, the overwhelming majority of young people in our part of the world entered the labour market at the ages of 13 and 14. Today, everybody is in full-time education during most of the teenage span. This fact alone signifies something of a revolution as far as the social role of this age group is concerned. Instead of performing the essentials of an adult role that is concomitant with the physiological changes taking place during these years, teenagers in school are still regarded and treated like children. In the post-industrial society, physiological puberty is followed by prolonged social or psychological puberty, by a long period of maturation and

preparation for an adult role in society that is far more complicated than the role played in the subsistence economy of yesteryear's agrarian and craft society, where the family was the main educational institution.

However, this problem has been rendered more acute by the fact that teenagers reach physiological puberty almost two years earlier today than at the turn of the century (Tanner, 1961). In other words, today's young people sit in school during all those years when their coevals in the beginning of this century were busy learning adult roles outside the school walls. It stand to reason that this poses formidable problems for educators and teachers. When seen in secular perspective, these problems are so new that their scope has yet to be grasped.

To be sure, even the older society had its youngsters who stayed on in school until the age of 20 and afterwards. But they composed a small, privileged social elite who came from environments that were very education-minded they belonged to a society where education constituted an integral part of a predetermined, ascriptive social status and did not have the same career-shaping significance it has today.

The pedagogical issues that dominate in the teenage school of today's-and tomorrow's – society may be summed up in two words: participation and relevance. We are faced with a real dilemma here. Young people cannot be fitted for adult roles by releasing them earlier than now into the labour market, which simply cannot absorb manpower that has not received a relatively broad general education and proceeded from there to acquire at least the rudiments of vocational training. However, the road towards greater participation and meaningfulness in the teenage school must be travelled on a vehicle of work practices which more closely resembled those obtaining in the larger society in general and the working community in particular. Instead of letting teenagers spend the whole of their learning time in classrooms, consideration must be given to how far it is practicable to have them "leapfrog" or "sandwhich" time spent inside school walls with time spent in acquiring training and experience on the outside.

6. The added number of years spent in school has of course added to the scope of duties it performs. These duties are no longer strictly pedagogical but also of a social and custodial nature. Pari passu with the family's declining importance as an institution, the school has had to step in more and more. When

demands are now being raised for a compulsory pre-school, the motives behind it are not only didactic but also social, to put children from different social classes more on equal footing. People also want the school to function as a baby-sitter. At a time when the majority of young people no longer go to school for six years but for 10 to 12, the primary challenge posed to the school lies in its ability to impart more knowledge and skills. However, most official curricula that have taken shape in the past two decades emphasize the school's socializing mission or, to quote the new instructional plan for the Swedish basic school, its personality-developing mission. These increased claims upon the school should be seen in connection with various circumstances, set forth below, which must be borne in mind if one wants to assess whether the school really has potentials for living up to the expectations that the curriculum objectives impose on it.

7. In the static agrarian and craft society of a former day, the obvious place for upbringing was the home. When the compulsory school was introduced in our part of the world more than a century ago, its principal duties were to inculcate the three R's and general principles of ethical conduct, most of which amounted to readings from the Bible. The school operated in a world of uniform values, where home and school each reinforced the other's influence.

The course of history in the past few decades has not only deprived the family of its institutional importance and enhanced the school's temporal influence, but has also opened new sources of influence and persuasion, namely mass media and groups formed by the young people themselves, the peer groups; various labels have been pinned on the latter, among them the "adolescent society". The mass media, here understood to refer mainly to radio and television, have enlarged the horizon of experience : once confined to the four walls of home or the home town, it now takes in the whole world. In a quite different way than earlier generations of youth, today's young people are globally minded, due in no small measure to the peculiar ability of television to convey concrete impressions (even if based on no more than glimpses) of events as they unfold, not least of the misery in the third world. The young people growing up today are exposed every bit as much to emanations from the cathode ray tube as to the preachings of teachers who stand before them in classrooms.

Today's young people live in an urbanized world with its greater

emphasis on the collective. This does not mean that their relation with adults are closer; indeed, it is truer to say of children and young people in large cities that they probably have less individual contacts with adults today than in the earlier society. Those who are now growing up live in a world with a generation gap in which the people on either side are absorbed by their own doings. Young people tend to find their emotional anchorage in groups that are spontaneously formed by coevals who are in the same boat with them, that is, of standing outside the adult society, of being unwilling targets of instruction, and of getting in the way of those who have already made the grade. Time and again, investigations of the teenage culture have shown that the youth groups are just as strong as the parents, if not stronger, in the shaping of ideals (Coleman, 1961; Andersson, 1969). In that respect the school and its teachers get much the worst of it, a fact that cannot be ignored when the school is also called upon, given its *present* organization and the work practices it *now* employs, to act as a personality-developing institution.

8. The accent on upbringing has thus shifted from the home to the school, mass media and peer groups. However, it should also be stressed that this observation pertains to the *school age* itself, not to the preschool years. A number of latter-year investigations have called attention to the enormous importance of the preschool home environment for success in school. In Great Britain, one of the inquiries made, the Plowden Committee (1967) sought to find out what proportions of varying scholastic achievements at the age of 11, i.e., the time for moving on to the secondary school, could be respectively attributed to home factors and school factors. It was found that the home factors explained three times as much of the variation as the school factors. Achievement tests were again administered quite recently to the same pupils after four years of secondary schooling to ascertain how much of the knowledge increments gained during those years could be explained with reference to home background and school conditions, respectively. This analysis confirms the first one (Peaker, 1971). The school exerts a moderate influence compared with the home. As part of the international research project (Husen, 1967) on mathematics, we related the achievements of pupils to their social background (the social class and education of parents), as well as to some 30 educational variables, such as competence of teachers, volume of instruction in the subject, extent of homework etc. In all the twelve school systems which this

project covered, we obtained results that were identical with those found by the Plowden Committee for Britain and the Coleman Report (Coleman, 1966) for the United States.

According to a renewed analysis of earlier research findings, made by Professor Benjamin Bloom of Chicago University (Bloom, 1964), at least two-thirds of the individual differences in intellectual capability found at the age of 18 could already be portended when the pupils started school at the age of 6. In other words: the greater part of the intellectual differentiation, irrespective of whether this is essentially conditioned by heredity or environment, is already there when the pupils start school. Two of Bloom's students, Wolf (1964) and Dave (1963), have shown that if allowance is made for a number of purely psychological factors in the home environment, for example how much time parents devote to their children, encourage them to learn, train them to acquire learning skills and impart to them a useful vocabulary for school purposes, very high orders of correlation are obtained between that environment and what these pupils accomplish in school.

All this suggests that the future preprimary school will become a decisive institution when it comes to creating equal chances for education and compensating for the "social inheritance" (Jonsson, 1969).

9. Up to now the school as an institution has been limited to a defined age range, usually coinciding with compulsory school attendance. It has also been isolated from the surrounding society, above all from the world of work. Up to the early 1950's, typically enough, the business community, trade unions and employer organizations paid hardly any attention to school matters. The school has functioned on the principle that the beginning of life, i.e., the years spent in school, is supposed to be taken up with learning what the adult "needs to know". That is when the individual is supposed to ingest the fare of knowledge and skills that will presumably nourish him all life long. This principle is unworkable in the rapidly changing technological society, where any one body of know-how, not least in the vocational sphere, is as likely as not to become out of date before long and where the individual has to keep on learning, and perhaps even unlearn, in order to cope with the changes thrown up by technology and the knowledge industry. A corollary of this is a displacement of the educational goals themselves, with emphasis shifting from the inculcation of specific knowledge towards the build-up of skills, especially those having a broad

range of applications. And heading the list of such skills is the ability to learn on one's own.

10. Present-day technology, not least as embodied in ordinary radio and TV sets, sound and videotape recorders, not to mention computers, has opened up new vistas on teaching aids. Anybody who does not have an engineer inside him may find it hard to envision what these new aids can signify. It does not take too much imagination to see that they are bound to affect the teacher's role tremendously. This process is already under way. If I were asked to characterize it in a single sentence, it is this: the teacher is becoming less of a communicator and monitor of knowledge and more of a person who plans individual learning. Since staffing costs, in particular the salaries of teachers, bulk largest by far in the school's budget of current expenditures, they also comprise the main item where the economy axe is likely to strike. In Sweden, as well as in most comparable countries, annual expenditures per pupil have tended to rise just as steeply as daily expenditures per patient in hospitals (Coombs, 1968). A possible consequence of this, at a juncture when more and more people are being educated for longer periods, may be to effect economies by reducing staff costs. Where the teenage school is concerned, draconian measures of this kind can scarcely have the effect of lowering teacher-pupil ratios; that would be tantamount to imposing constraints on the ability of teachers to discharge their central pedagogical duties, namely to maintain contact with and guide the pupils, individually and in small groups. The school is not a factory and—a point that cannot be stressed too strongly—teachers are *not* replaceable by machines. (In the exceptional cases when that is justified, the underlying circumstances can only be described as abnormal.) The "efficiencies" aspired to can be gained by other measures. Here a particularly strong case can be argued for reducing the number of directly teacher-led work periods in the secondary school. In place of the 30-35 hours of the conventional classroom-lesson type, it may be feasible to come down at these stages to 20 hours, with provision for the teacher's active participation where his physical presence in the learning task is necessary. The independent learning carried on by the pupils would increase correspondingly. At bottom, of course, all learning is a form of self activity. But in order to develop that activity, the teachers must be enabled to devote more time to planning learning and designing individualized material.

11. Expansion of the educational system also extends to its organizational machinery. Education takes place within the framework of increasingly larger administrative units, reflecting a widespread belief that economics of scale are all to the good in this sphere as well. In the past few decades, moreover, in many countries we have tended to get an ever more encompassing central, regional and local school bureaucracy. The hierarchy of decisionmakers has waxed higher and higher, with more and more power converging at the summit and the proliferation of time-consuming channels for the transaction of business. To illustrate what has happened, I should like to tell a quaint little story. Once in the 1940's I interviewed the then 85-year-old former educational officer, Hjalmar Berg, a brother of Fridtjuv Berg, about whom I was writing a book. Hjalmar Berg used to be one of the few top-ranking men in the newly formed National Board of Education. With the coming of spring, he said he was in the habit of looking out onto the street when the postman came, to the building where the Board was housed with the day's mail. If the bundle he took out of his bag looked thin, there was a chance of getting all the business finished off by lunch. In that case one could take lunch in Djurgarden (Deer Park) and perhaps even spend an afternoon there after a day's work well done !

In spite of assurances to the contrary, increased centralization is a fact if we bear in mind, nota bene, that it can also apply to local school administration. The more links inserted in the hierarchical chain and the fewer the direct contacts between decisionmakers and classrooms, the greater is the formalism and the less of real substance that goes into the transaction of business through "channels".

Over the course of a few decades, the average school plant has doubled in size, at least in Sweden. The little red schoolhouses of the countryside have disappeared one by one as part of a sweeping merger process, and even the cities have opted for relatively large schools.

Bureaucratization and the advent of large units have created problems analagous to those we have in the world of work, namely formalism, the lack of personal contacts between the footsoldiers and the decision-makers. And the same result has been visited upon the school : an alienation felt by teachers and pupils towards the higher-ups. Those who work at the "grass-roots" level often experience what can principally be described as a lack of identity. To quote those of the 30,000 students who revolted in 1964 at the University of California in Berkeley, they feel like IBM cards.

12. A list of current educational tendencies relevant for today's school would be dreadfully incomplete if it failed to include the so-called generation gap. Much could undoubtedly be said about this problem area, for here we are confronted with what Nietzsche once called a reassessment of all values. However, it would take me too far afield to go at length into the complex phenomena that the label, generation gap, is meant to cover. A few scattered remarks must therefore suffice. Many signs indicate that the young people who have grown up under more favourable material circumstances than their parents are opposed to the puritan hard-working ethic that the parental generation is held to represent. The young ones are asking themselves whether the material results of 9 to 5 drudgery are worth the price. Closely related to this is their questioning of the price paid, in the form of pollution and rapacious exploitation of natural resources, for increased standard of living and for a technology that is successful in a conventional physical sense. Indeed, the very sincerity of the adult generation's intentions is challenged. A massive hypocrisy is imputed to these intentions. The adults honour freedom in word but pervert it in deeds. They speak of brotherhood but exploit other people or groups in their own country. They speak of equality, but do their utmost to carve out a better material position and higher status for themselves (Keniston, 1968).

There, loosely outlined in twelve points, are the tendencies that are more or less salient at present. The question is whether, and if so how much, some of them will be reinforced and thus imprint even more the future educational system, the one we are going to have in 25-30 years. One doesn't have to be a social scientist to be aware of the powerful institutional forces at work within the educational system. So it is best not to expect too much in the way of radical changes. On the other hand, I believe that in for instance Sweden not even the wildest dreamer around 1950, when the first stage of the school reform was enacted, could have anticipated what was going to happen in regard to enrollments, a transformed school organization and new instructional plans in the twenty years up to 1970. Those attempts to peer into the future which simply consist of extrapolating current trends build upon the assumption, usually implicit, that tomorrow's values and preferences, which

determine its ordering of societal priorities, will be the same as today's. A great deal of the physical planning in present-day society is built upon such assumptions.

2.3 The future

The rest of this chapter will be devoted to a risky enterprise of its own, which is to make some assumptions about the future of the school in our part of the world, say 25 to 30 years hence. Had some assumptions amounted to no more than idle speculations on my part, they would not have been presented here. But for the past couple of years the School of Education in Stockholm has been pursuing a research project on education in the year 2000. An integral part of this work is an attempt to systematize ideas about the future educational system held by leading educational experts in government ministries, the National Board of Education, the Office of the Chancellor of the Swedish Universities, associations of teachers, employers and employees, and so on. Some 15 of these experts have met at oneday conferences, three of them held so far, to discuss the findings of interviews and responses to questionnaires. The remarks that follow should therefore be regarded as the interpretation put by the author into the outcome of these systematized speculations about the future.

Assumptions about society at large tend to develop implicit in some of the tendencies set forth under the twelve points and as such amount in part to projections of these. First of all we can reckon with an accelerated process of change in the wake of technological innovations, with all the readjustment problems and frustrations that this entails. Second, we can reckon with enlarged scope for consumption and leisure. When it comes to deciding what the word "standard" is supposed to mean, we can expect mounting opposition to conventional thinking in terms of gross national product. Let us take an extreme but illuminating example. The Anglo-French scheme to build a supersonic plane, the Concorde Project, is entered in the national income accounts as an increment to the economy and thus goes into GNP : the country (or countries) has become richer. The "sound-bang" problem makes it necessary to build airfields farther away from centres of population : that adds another increment to the economy. To make the airfields accessible, new express ways have to be built, and there you have a third increment. But a man unschooled in such economic intricacies is more likely to ask : What contribution will these supersonic planes make to the amenity or "quality of life" in contemporary society ? By this criterion, which we may call the social cost calculus, all the alleged increments turn out to be minuses; the plus values are hard to find.

Third, we must obviously reckon with greater international exposure on the strength of mass media and travels, with its concomitants of increased global consciousness and international responsibility. Fourth, we must reckon with an increased flow of information, both on the production side, i.e., the research volume, and on the distribution side, i.e., the output coming from the institutional agencies of information, the schools, as well as from mass media and computers. Fifth, we must provisionally reckon with increased pluralism of values, i.e., a society where the growing and grown-up are confronted with highly divergent views and value judgments. Sixth, we must reckon with—likewise for some time to come, just how long will depend on how far the priorities will be reordered—a disequilibrium between the ecological system and technology on account of the latter's waste products and pollution.

2.4. The educational system

Where the educational system as such is concerned, the interviews and discussions with the experts may be said to have thrust four main assumptions into the foreground. First, the course of events will reinforce the tendency for more and more people to be educated, formally or informally, over longer periods. Second, there are many indications that the educational system will be increasingly integrated with the rest of society. Up to now the institutional task of the school has been to instruct children and young people. Its further task will be to function as a "learning centre" for *all* generations. The school will take on greater significance for administering and planning of education and individual paths of study. Not least important, the availability of technical aids such as television (especially as programmes prerecorded on cassette tapes become more widespread) and computers will permit the installation of terminals and playback devices in homes, making it possible to learn a large part of the material that is now transmitted by teachers, parents and other sources close to the home. Visits to learning centres will have the primary purposes of individual guidance and group discussions in regard to subject matter areas for which such work practices are essential.

Many current signs portend a shift of accent between the pre-primary school, teenage school and adult education. A growing body of opinion holds that the teenage school has now "received its share" and that the time has come for assigning higher priority to the preprimary school and to the instruction of adults. Attention has already been called to studies which have demonstrated the crucial importance of preschool years for the ability to benefit from regular schooling. As to adult education, the available evidence indicates that most of the people who take advantage of the new opportunities are those who are already well-off, where as a layer within the low-wage groups and the cultural outsiders have stayed beyond reach. This explains why for instance in Sweden various possibilities have been discussed of investing in "searching-out" programmes. Insofar as the idea of "recurrent" or "sandwiched" education is institutionalized, so that it becomes normal to tread on a guaranteed educational path after spending a number of years in the teenage school, the hitherto 100-percent dominance of that school in the educational system will be somewhat reduced.

It was pointed out earlier that we are caught up in a change which signifies that the school is shifting its objective from the transmission of "fixed" and lifelong knowledge towards certain fundamental skills, above all the skill of "learning to learn" (Husen, 1969). With the aim of producing the broadest possible frame of reference for the citizens of the community as regards communication skills and certain content subjects, increasingly delayed emphasis will be put on specialization, which is essentially oriented towards specific vocational tasks. In its role of personality developer, the school will matter less compared with mass media, peer groups, organizations etc.

Much of what has been brought forward so far has entailed certain assumptions about work practices in the future school or learning centre. For the most part, these assumptions were not spelled out, so we shall now proceed to render them more explicit. Inasmuch as technical aids of one kind or another are expected to alter the teacher's role considerably (a point on which we have already touched), a few words will also be said about these.

We assumed earlier that general education and vocational education will increasingly interpenetrate, not least because whatever holds true for know-how of any one occupation today is hardly likely to be entirely relevant two or three decades hence. Hence the paradox that the best kind of vocational education inheres in general education; this because it inculcates a good basic repertoire on which to build further.

Instruction will become more and more individualized. However, the school also performs a socializing function, and for this purpose it will be necessary not only to widen individual contacts between teacher and pupil but also provide for more group work of the study-circle type at the expense of conventional frontal instruction in larger groups. Indeed, we shall have to reckon with greater flexibility as regards attendance at "learning centres", group size and breakdowns by so-called grades and subject matter areas than is now the case. The teacher will be chiefly called upon to plan, guide and evaluate the progress of the individual pupil. The actual transmission of knowledge and the real work of learning will essentially have to rest on access to prefabricated material. In the discussions that we have waged at the School of Education in Stockholm with the experts concerning the change of objectives for the school's work and its consequences for the teaching role, it has been pointed out that a distinction ought to be drawn between the school's "learning function" in the time-honoured sense and its "socializing function" as defined by the official curricula put out during the past decade. Although the two functions are integrated in existing curricula, it might be better to effect a partial separation in the sense of attaching different weights to them at different stages; for example, the socializing function could be more strongly stressed at the outset of schooling, with more of its performance entrusted to educators trained in youth leadership, while the inculcation of knowledge and cognitive skills could be left to other experts trained for this purpose.

It is important that planning for the future should be made flexible: the liberty to change one's mind must be retained, not exchanged for rigid commitment to fixed alternatives, however useful or desirable these may be in themselves. Futurological speculations and attempts to describe in concrete terms the consequences of what we are doing or planning in the here and now ought to make us aware not only of our persent preoccupations but also of what we are allowing ourselves to be taken away from us. The fact that futurology has emerged as a field of research during the 1960's should be read as manifesting a beilef that the

future is amenable to influence and that we have not merely resigned to the inevitability of engineering projections like, "By 1980 X million cars will be rolling in Sweden, so we need Y hundred miles of motorways." Above all it is today's youth that has revolted against "King Trend", a god to whom the experts all too readily pay homage. Although trying to explore the future does not mean to say that we can predict it, we think the effort can contribute towards shaping the future a bit more after our heart's desire.

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3

Useful Functions for the Schools of the Future

3.1. Some assumptions about the "Learning society"

Educators who speculate imaginatively about the future of the institutions they deal with, are supposed to start from a number of reasonable assumptions about the matrix of tomorrow's society. Some of these assumptions are highly reasonable, while others certainly must be looked upon as dubious or even highly controversial. The margins of uncertainty which govern here are not the least determined by unforeseen technological innovations, irrespective of whether these are regarded as advances or calamities. I shall begin my attempts to outline what the schools will look like in the future by making certain assumptions about society at the end of the century,

and in so doing separate assumptions about the society at large from those which pertain to the working life. As you will immediately realize, these assumptions by and large apply to the technologically and economically developed societies but in longer perspective are relevant to all societies. The consequences for education will then be drawn from these assumptions. However, the attempts to form a picture of tomorrow's school must also be based on assumptions relating to the educational system itself, e.g., assumptions about facilities such as audiovisual aids and teaching machines, and about buildings, methods and training of teachers.

In the decades to come we shall have to reckon with an *accelerated* process of change in many respects. That will apply with particular force to the economy, where rates of growth in at least some highly industrialized countries are tending to increase.[1] This growth will be accompanied by a rise in individual standards of living. Applications of electronics and computer technology have triggered off a second Industrial Revolution. A problem common to both developing and industrialized countries is the "culture lag" not only of institutions (as in the educational system) but also of attitudes and values. They derive from a state of society where the external determinants of technology, economics and institutions were different. An example is the impact that the introduction of contraceptive pills may be expected to have on the existing sexual morality. Indeed, the rapid changes wrought by technology in working and living conditions cannot avoid generating cultural maladjustments. For the majority of individuals, great strains are imposed by new techniques, new material conditions of human existence, and new interpersonal relations. The new technology will require many people not only to continue and supplement their previous education, but even to undergo actual re-training because occupational experience and skills quickly become obsolete. Changes of occupation or job will entail great geographic mobility. New sections of the community, embracing different kinds of technicians and experts, will become more influential. A pluralistic value-climate will be hard on the many people who want clear-cut guidelines for their judgments and actions. The risk of maladjustment reactions as embodied in fascist ideology will probably intensify, the greater the discrepancy between technology and value patterns becomes.

1 Recent recession may cast some doubt upon this assumption.

Urbanization will continue at an accelerated pace. More and more people will accordingly be living in cities and towns, with all that this implies in the way of informal contacts and confrontation between people having different backgrounds of upbringing and values. Social controls are weaker and contacts between generations fewer in the urbanized environment than in the countryside or village, where everyone knows his neighbour and where the individual is far more "visible" than in the anonymous fabric of the city. Reduced social control tends to aggravate criminal behaviour, especially among teenagers. In recent years the informal contacts in large enterprises and organizations have made the so-called alienation problem more pronounced than before. The individual finds it difficult to view his own contribution in the perspective of the larger, imponderable whole, and indeed to define his own identity. Under such circumstances, he lies ready to hand for fascist and other salvation ideologies to make capital of the collective reactions of maladjustment.

3.1.1. Family and leisure

The functions of the family as an institution have been very much changed in the industrialized and urbanized society. What has happened is essentially the following: Families have fewer children than in the past. The family performs fewer common functions. Families of yesteryear which tilled the soil or pursued a craft were frequently real communities of both work and leisure. Today's livelihoods are earned outside the home, and not only by the paterfamilias. The mothers of more than half of today's urban families do the same, either full-time or part-time. Their children stay much longer in school. It is becoming increasingly common to have different kinds of institutions to look after them before they start regular school. By and large, this transformation may be said to have left the family with two functions: reproduction of the human species and socialization of the very small children. The two other main functions, i.e., the economic and the protective, have been increasingly assumed by the society at large.

On the other hand, increased leisure in the wake of shorter working hours outside the home and of longer weekends point in the direction of greatly enlarged "cooperation in amusement and play". The weekend cottage, the car and the joint pursuit of hobbies combine to give the family a growing body of shared experiences. During the next few decades the raising standards of living will confront the family with the choice of

increasing either consumption or leisure. Leisure has been enhanced by all sorts of technical time saving devices. At the same time the question of how leisure can be employed towards better self-realization, the creation of sensible "time fillers", has taken on greater urgency. Longer life expectancy and the tendency to concentrate childbearing in the early years of marriage have enabled a growing proportion of wives to play other roles than keeping house and raising children.

It has been emphasized that the penchant of contemporary society for moulding "organization men", i.e., people who present the appearence of being well-adjusted, conformist, faceless and effective workers in the firm, organization or "movement", will impart greater strength to the family as an emotional anchorage. Because of increasing geographic mobility and because contacts with most people outside the home are bound to be superficial, and above all ephemeral, marriage provides a facility for emotional ties and role identity that other social groups cannot offer. A corollary of this observation is that the organized society and its institutions, big enterprises, the proliferating public authorities, the school etc., will become more and more impersonal and will be less and less disposed to permit the individual to "let off steam". The family can then become the place where frustrations and anxiety will find a more inhibited outlet. In a world otherwise characterized by casual and impersonal relations, the family will thus become a forum for the sharing of emotions and the partaking of intimate solidarity. The consequence for marriage in a formalized world will be to make it more of an institution for establishing identity and promoting individual and genuine modes of expression. It will counterbalance organized life and in that way become a "rehabilitative institution which generates new 'coping power'" (Pauline Wahlen). Raising children will be a mission that fosters individuality, where the establishment of emotional identifications will have the utmost importance.

3.1.2. Mass communication

Mass media and growing geographic mobility will increase communications not only within countries but also between them. To an overwhelming extent, the world of tomorrow will be a world of internationalism. Advance in the developing countries towards controlling the population explosion will permit a rise in living standards and educational levels. During the next few decades the task of coping with poverty and famine, which is now the lot of most people on this earth, will become a main task of the industrialized countries. Broadened international communication will make the masses of Asia, Africa and Latin America increasingly conscious of the gaps in living standards, which in turn will give rise to social revolutionary movements. On the whole, it is likely that the rapid adoption of Western technology by developing countries will afflict them with problems of cultural adjustment and social change greater than those experienced in the Western industrial countries.

Communication satellites can make an increasing number of people more vividly aware of world events than ever before. That will give greater urgency to the problem of imparting a representative character to reality in mass media generally, and in television in particular. More and more of the reality to which people react in the mass communication society is the reality which mass media convey, and less that which they themselves directly observe. An event that is not covered by mass media tends to be one that simply does not exist. From this it follows that the determination of what shall be communicated, for example over television, must essentially rest with the community at large and not with commercial interests.

The tourist industry owes its explosive growth in the affluent industrial countries to the diffusion of opportunities for large masses to travel. Higher standards of consumption have been accompanied by a vigorously expanding advertising industry, where brand-name advertising has become an increasingly conspicuous feature. Whether he is buying capital goods or consumer goods, the individual is confronted with a growingly dissonant chorus of pitchmen.

3.1.3. Health problems

Improved material standards have been achieved by technology at the price of serious health problems. The waste products of our technical civilization are in process of destroying water and air. The ruthless exploitation of natural resources will impoverish coming generations unless drastic restrictive measures are taken promptly. The enormous despoliation of nature inflicted by water contaminants has the undesired side effect of curtailing recreational opportunities. Already by the mid-1960's air pollution was responsible for the smoggy atmosphere of many metropolitan areas. The proliferating of gasoline-powered motor vehicles aggravates the problem, further compounded by many types of industrial activity. It may be assumed that technicians and urban planners will soon be much more

aware of the litter problems and health hazards posed by technology, and hence more willing than the present generation to deal with them effectively.

The very style of life in modern society creates health problems of its own. As if activities requiring the exertion of muscle and sinew were not diminishing anyway, there will be even less need of it as industrial engineering continues to reduce the component of manual labor. The ever growing preference for locomotion by vehicle, especially the private car, makes greater the risk of obesity. The stepped-up tempo of life and the diverse causes of frustration associated with a more complex and rigidly bureaucratized society will make cardio-vascular diseases increasingly common, with over-eating as a contributory cause. A task of growing importance for the community at large will be to sponsor programs of health education. By virtue of medical advances, which will surely also overcome the cardiovascular diseases, in due course, average longevity will increase even more. That fact of itself, together with a trend towards individually selected retirement age, will enable an ever larger proportion of people to reach an age which makes it necessary to find meaningful pursuits even after the termination of regular careers.

3.1.4. Bureaucratization

As observed earlier, society is increasingly characterized by large units and big organizations both within the private and public sector. We are rushing headlong into an *organization society*. Public agencies of government and administration will continue to expand, a consequence not only of the need for better planning, coordination and control of such activity in the increasingly complex society, but also of the tendency towards "empire-building" inherent in the bureaucratic system itself. The bureaucrats will become more important persons because they tend to become more identified with "their" agency and represent them vis-a-vis their clients. This also holds true for the administrative hierarchies of private enterprises and the agents of unions and professional associations. The individual will increasingly perceive himself to be a lost Kafka figure in this mighty and hard-to fathom apparatus. An overshadowing social problem for the future, and hence an important political problem, will have to do with how the individual can avoid to be "alienated" in mass society, and with how he shall be protected against injustices committed by bureaucrats in government agencies and private firms. It seems likely that efforts will be made at workplaces and within organizations to create a counterpart to the emotional anchorage that the family provides. Viewpoints and reactions emanating from the "grass roots" have proved notoriously unamenable to canalization through the formal hierarchy which characterizes the line organization of firms and government agencies.

3.1.5. The learning society

Society a few decades from now will confer status decreasingly less on the basis of social background or inherited wealth. To a growing extent, *educated ability* will be democracy's replacement for inherited social prerogatives. The technician, the expert and the scientist will become a more important person not only on the strength of his know-how and proficiency in planning, but also because the information he gives to policy-makers will be so complicated that they will increasingly tend to waive their authority. The question of expertise versus the "common sense" of ordinary people boils down to weighing the relative merits of general education and vocational training. The future society is likely to be more "meritocratic" in the sense that ability and education will matter more for social mobility than in the past.

Among all the "explosions" that have come into use as labels to describe the rapidly changing Western society, the term "knowledge explosion" is one of the most appropriate. Reference is often made to the "knowledge industry", which refers both to the producers of knowledge, such as the research institutes, and its distributors, e.g. schools, mass media, book publishers, libraries and so on. What we have been witnessing since the mid-1960's in the field of distribution technology may well have begun to revolutionize the communication of knowledge in another ten years or so. I have in mind here the marriage between "hardware" and "software", on the one side of which are the computer manufacturers (e.g. IBM) and the reprographic industry (e.g. Xerox), and on the other side publishers of books, newspapers and periodicals. On the horizon looms the possibility of communicating both visual and verbal information to individual terminals, installed either in class-rooms or in homes. Learning transmitted in this way can be controlled by information producing programs which are stored in computer memory units or otherwise kept in some central facility where it is accessible in a form which suits the individual. To the same extent that information more easily becomes available it will be necessary to examine subject matter presented at school much more

thoroughly than now with reference to what has to be memorized or not.

The passage of another two decades ought to see near-total realization of the principle of *equal opportunities* for everybody to receive as much education as he is thought capable of absorbing. Economic and geographic barriers will be virtually dismantled. The lagging attitudes in different social strata, namely that to receive a certain type or amount of education is either "proper" or "improper", will have practically vanished. In many countries, on both sides of the Atlantic, parents of the children who start school in the 1980's will themselves have grown up when universal secondary schooling was introduced. They will have high aspirations for the education of their children, higher than they themselves set, even though a high proportion of them will have qualified for university entrance. At the beginning of the 1980's it is likely that in several highly industrialized countries, like the United States, Japan and Sweden, at least 80 percent of an age cohort will pursue an education (though not necessarily in school) up to the age of 19 or 20. The only limits on personal aspirations will be those imposed by allocation of the national resources. This means that the higher seats of learning, in which a majority of young people around the age of 20 are enrolled, including the institutions which give basic university degrees, will become centres of culture in a quite different way than before. Sheer numbers will turn these undergraduates into a power factor, whose significance will be realized by the mass media and the consumption industries which aim at the youth market.

By comparison with earlier generations, the young people in tomorrow's "learning society" will be much more articulate. Equipped with broader horizons and greater awareness of world problems, and also because fewer of them will have had to "work their way up" than their parents, they will be searching for other goals and other meanings to life than "getting on" in the world. In several so-called affluent countries young people are already rejecting the puritan ethic of the hard-working man under whose auspices their parents "made it". This means that the gap between generations might widen, in any event the gap which relates to values as to what is socially desirable. In consequence of the "youth revolt", young people will demand—and get—increased influence. The prevailing tendency upto the 1960's was that, which characterized middle-class upbringing and middle-class education

in the Western world, namely that until young persons finished their education they were to be treated like incompetent, immature children, to be denied all authority over, for example, school affairs. The lack of "functional participation" in actual school work, with the consequences this has had in the form of unforthcoming social maturity and the tendency to shift the pivot of social life to points outside the school, should by the late 1970's have led to another dispensation, where more students in both secondary and higher education will be in on the planning and decisions which bear on their studies.

3.1.6. The working community

The shift from manufacturing industry to service industry, which has been in full swing since the early 1950's, will tend to accelerate. One is no longer tied down as before to stationary jobs with relatively routine duties. In manufacturing industry the effect of continuing technical rationalization has been to substitute machinery for human muscle in more and more operations, at the same time that the production process itself increasingly comes under automatic controls with the adoption of modern electronics and data-processing methods. The bluecollar worker of old will become a skilled technician who performs a general monitorial function. He will have to know how the "machinery works" and be ready to take action if something goes wrong, because the machinery entrusted to him will be incomparably much more expensive than in the past.

The service industry will have an increasing portion of its practitioners engaged in medical services and education. However, a great many people will be also working in other service sectors such as tourism and catering. Many services formerly provided by the home for itself will be supplied by outside organizations, such as food preparation, laundry, cleaning, transportation, etc. That will effect a change in the knowledge and skills required by the working community. The service industry will put a premium on the ability to communicate with customers orally and in writing, to deal with them smoothly and easily, and make the best of their wishes and complaints. For these purposes, it will not be enough to master the native tongue; familiarity with one or more foreign languages will become increasingly essential.

An important consequence of modern technology and greater efficiencies in manufacturing industry will be to professionalize more of the duties performed by employees. The fewer the routine and repetitive operations that are required of an employee, the more he will have need of general

education and specialized occupational experience. Technological advances, not least those identified with electronics, will definitely not "enslave" individuals to the machine. On the contrary; the machine will take over the simpler tasks, leaving the worker to deal with more sophisticated tasks, those which require an intelligent overview and a flexible choice of alternatives.

The speedy transformation of the economic system, will increasingly make fixed commitment to any one line of vocational training a dubious proposition. So rapid is the process of change in major sectors that a person who has gone to great lengths to master the intricacies of his particular craft cannot be sure whether his skills will be marketable only a few years hence. From this two consequences follow. First, basic skills which involve the ability to listen, speak, read, write and count, and also the ability on his own hand to find adequate knowledge, will take on ever greater importance. Second, it will also be important to have a command of certain fundamentals in different subject areas, i.e., familiarity with the concepts, principles and methods which constitute these subjects as disciplines, as fields of human learning. It will be necessary to assimilate a body of *general education,* large enough to cover the broad unforeseen spectrum of tasks that will be confronted both in the working community and outside it. The normal course of a life career will probably have to make *recurring* provision for further education and in some cases for retraining in order to prepare for a completely different occupational sector. It has been observed that the specialized knowledge which an engineer learned as part of his education in the end-1950's found but moderate application in his sphere of activities ten years later. But insofar as he had acquired a good basic education in science and a good general orientation in technology, he could without too much trouble familiarize himself with the new.

By the end of the century, it should be the rule rather than the exception for a working career to be dramatically affected by a technology which translates human talent into machinery, information systems, computer programs and "precooked" knowledge which is immediately retrievable for use. Lifelong education, at least in occupations of a more professional nature, looks like becoming a normal fact of life.

3.2. The educational system

3.2.1. Quantitative growth

The sweeping portrayal of a changing society I have given has been an attempt to provide a background for speculations about how the educational system will look a few decades from now.

Two developments may be taken for granted : enrollments, particularly in higher education, will continue to expand, and more years will be devoted to full-time learning. We can feel sure of a spectacular quantitative growth in the educational system, in terms of students and the number of years they will be spending in school. Adult education (or continuing education as it is sometime labelled) will probably expand more than youth education.

To take Sweden as an example : the period beginning with 1950 has been marked by an "enrollment explosion", which has visited its rolling impacts upon elementary, secondary and university levels in turn. The economy's manpower needs, as well as the heightened demands for educational consumption which follow from improved living standards, will mean that nearly half the youth population will want education at the post-secondary level. The universities will probably "burst at the seams", which in turn looks like ushering in two types of institutions : the one mainly concerned with preparing for vocations on the basis of a first degree, and the other with the training of researchers at the doctoral and post-doctoral level.

3.2.2. Economic consequences

Given a development such as this in countries where almost all education is paid for out of public funds, and where even public subsidies are forthcoming to compensate young people for some of the income they do not earn by staying longer in school, severe strains are inevitably imposed on government finances and ultimately on national resources. All the ardent talk of rationalization and the desire to have the work of educational research and development aim at manpower economics in schools should, of course, be seen in this light. The heaviest expense of running an educational system is incurred by the teacher. As major savings stand to be gained by the more efficient deployment of this manpower, opportunities will be opened up for more admissions to those schools which have had to limit their enrollment for financial reasons. For some time it will presumably be realistic to expect that priority will be given to quantity, the number of educational opportunities, ahead of quality, the average level of accomplishment among the educated. We can assume that the future school will bear institutional features that will be at great variance with past tradition in

many respects. The buildings, which now go under the name of schools and run up a big construction bill, not to mention the rapidly increasing expense of equipping them, will surely have to be put to more effective, particularly more continuous use, in the future. Far from looking as schools have always looked, they will take on more of the guise of community centers or learning centers, where children, young people and adults will meet not only for instruction, lectures and study groups, but also for a broad array of other cultural activities, such as performances of plays, concerts, discussions, and leisure and hobby pursuits.

The costs of education embrace not only the direct outlays, those expended on the educational plant itself, but also the indirect loss of production and income which results from opting for education instead of gainful employment. Even though the question of whether or not lost income ought to be counted as an educational cost, is open to debate, it cannot be denied that education would be easier to bear in the macroeconomic short term if the young people partly were out working rather than going to school. This argument acquires added weight at a time when the numbers of young people pursuing a full-time education are growing with explosive speed. Nor can it be denied that a large slice of education is not an investment but quite simply consumption, something which in affluent countries can be regarded not only as legitimate but also self-evident. The Soviet Union, no doubt motivated by compelling social and economic reason, has gone in for educational models, which all have in common the aim to integrate education and productive work for late teenagers. These spend certain days in factories and other days in classrooms. Longer periods of education are sometimes alternated with longer periods of employment. The Russians have also committed themselves heavily to adult education, whose night classes are often attended or individual correspondence studies are pursued after a full day on the job.

3.2.3. Spreading out the educational period

It is now possible to envision a different balance between basic general education, vocational training and continuing education (retraining) than the one now struck. Tradition holds that as much education as possible ought to be squeezed into the early years of life. School should preferably be started at the earliest possible age. In the United States, a debate has been waged about what might be gained from letting 3-4 years olds learn to read and possibly write.

One can imagine a scheme which would guarantee every citizen free education after compulsory schooling for a specified length of time. It would then be up to the individual to decide whether he wanted to use up all his "bonds" at one go or spread them out. For example, some youngsters might be "fed up" with school at the age of 16 and prefer to leave, even though their parents want them to continue. Knowing that further education is guaranteed for them, they could take jobs to gain the maturity and experience that would make a return to school more meaningful. Considerable savings could no doubt be made from putting off further schooling till long past the age of 20. Adults are admittedly much more expensive to educate per unit of time because their on-the-job inputs are more productive, but it should be reckoned that they would be able, with considerably less instruction and in a much shorter time, to assimilate knowledge and skills that often have to be pressed upon unmotivated young people, and with a lot of time wasted in the process. Adults are better able to see the relevance of what they learn, can plan better, and can work to a much greater extent on their own without supervision.

No pretensions are made here to portraying even the general outlines of a future educational system that is not solely cast in a school-type mold and does not rest on a time-honored school organization. The best that can be done is to give indications and make observations about development trends which may be strengthened or weakened at some future time. As I have already pointed out, one can envision an abandonment of the formal division between education in schools for children and young people on the one hand, and productive inputs in the economy on the other, inasmuch as education can be divided in time in a different way than has so far prevailed. The advent of institutionalized adult education administered by the local educational authorities in Sweden (not to be confused with the long-standing programs of education for adults on a more informal basis run by the popular movements, such as the workers' movement or the temperance movement) has demonstrated that the old school-versus-work dichotomy is ripe for revision. And as has also been noted above, it is not necessary to devote full time to either education or work. A certain part of the day, or specified days in succession, may come to be spent in that institution called a school, whereas other times of the day or other full days can be given over to endeavour either in education or in productive work

(indeed, the two activities may well become indistinguishable.)

3.2.4. Future channels of education

What are the institutions that will be rendering contributions to tomorrow's educational system ? It stands to reason that the school in its traditional sense will continue to play the dominant role. However, the uses to which it is put will take in *all* ages and its manpower resources will include not only teachers as conventionally defined but also experts from various walks of life, capable exponents of different professions, officials and politicians. Boarding schools and camp schools would appear to be likely variants. We already have in-residence education for young people with special handicaps or for those looked after in corrective schools. Considering that it will be cheaper for society to give young people who are born in homes where they risk serious maladjustment, an in-residence schooling in place of social therapy induced by delinquency or other antisocial behavior must be taken into account. The other variant, camp schools, enables teachers and pupils to be together in short-term classes where educative contacts in the broadest sense can be established and strengthened.

Alongside the institutional school we have the new era's leading agents of cultural influence: the mass media. These will be increasingly incorporated in the actual schoolteaching. Before long it is likely that the average pupil at home will listen to the radio or watch television for at least as long as he watches and listens to a teacher in school.

In certain countries, such as Australia and the Soviet Union, correspondence courses have had great importance for the instruction of young people, but they are also important for adult education, as in Sweden. To the same extent that instruction by computer is introduced and methods for the marking and individualization of special exercises in this instruction are worked out, its potentials will increase even more.

In small countries, where fluency in one of the world languages is an imperative and some command of one or two others highly desirable, much of the school's time schedule goes to foreign languages. Experiments have lately been undertaken at the secondary level to locate partly such instruction in a country whose language the pupil is supposed to learn. With increasing communications in our day and age, there is every likelihood that external courses will become a common feature of the educational system, with provision made not only for languages but also for other subjects, both to be studied as part of regularly allotted longer stays abroad.

In spite of the considerable greater interest taken by the business community in Europe since the early 1950's in matters relating to education and schools—in certain countries, e.g. the Federal Republic of Germany, businessmen actually spearhead the drive for necessary school reforms—there is still a big, and to some extent necessary, gap between the type of education given in the classroom and that which may later become appropriate at the workplace; so as to impart to young people a broader experience of "functional participation" and stimulate their motivation by making them feel the relevance of what they are doing. It ought to be a matter of top priority to investigate all the educational (in both the material and formal senses of this term) possibilities which can lie in business sponsored programs of in-company training. It is likely that the development set in train by the experimental work in Sweden of the early 1950's, when certain categories of young people were enabled to receive for a few weeks through work experience practical vocational guidance on the premises of firms (a program that was later extended to all young people), will be further accentuated, so that more teenagers who so desire can take their education in "sandwich" form, spending certain times in school, other times in a company.

3.2.5. Work practices in the century-end school

Perhaps the most dominant feature of the century-end school we can imagine will have to do with the change in work practices. The acquisition of knowledge will in certain fundamental respects probably present a quite different picture.

(1) The emphasis will be put on learning, not on teaching. Hitherto the school has too often operated on the theory that learning necessarily presupposes teaching. But with growing realization that these activities are not identical, and that teaching may in extreme cases even impede productive learning, the direction of focus has been on economic management of the teaching function, as manifested by close analysis of its real import and the purposes it is supposed to serve. An essential consideration of the teacher's duties, of course, is to deploy his working time most effectively.

(2) Labour-saving facilities will make their way into the school to a greater extent. These facilities will embrace both "hardware" and "software" : in the former category, appliances such as projectors, tape

recorders and learning machines; in the latter, printed material such as exercise booklets, work cards and programmed textbooks. The school has long been unresponsive to the technological revolution that has reduced humdrum chores and raised production in industry.

(3) Although the main educational emphasis will have shifted from content subjects such as history and geography, to skill subjects, such as mother tongue and mathematics; this will in no way diminish the quantum of knowledge required. Towards this end great emphasis will have been put on teaching pupils how to acquire knowledge by themselves, which in turn will demand more intiative and independent work.

(4) A new organization of work has begun to make its entry with the abolition of the breakdown (for all subjects) by grades, with provision for flexible class sizes depending on the mode of instruction used.

What are the modes of instruction that may be assumed to hold sway in tomorrow's school? I shall confine myself here to a brief overview.

To begin with, we are already heading towards a new physical organization of work which signifies that division of pupils by grades has lost in importance, that the size of the group taught is determined by the mode of instruction, and that the pupil is more likely to face several teachers rather than a single teacher or instructor in any one subject. The division of pupils by grades, largely coinciding with age levels and entailing upward movement once a year in all subjects, contravenes what has long been common knowledge in differential psychology. Considerable variability already begins to emerge in the first grade, and the variability increases throughout the schooling period, by and large irrespective of non promotions and assignment to special classes. Individual differences in scholastic ability cannot account for more than half the variability in scholastic achievement that exists between pupils. In the future, therefore, consideration must be given to grouping the pupils in a way that eliminates grade division and grouping by streams and tracks that freezes the individual's educational and occupational career.

Further, we have taken the first groping steps towards an organization of work where the size of a class is determined by what takes place there. If the communication is mostly of the one-way kind, one hundred pupils or more can constitute the class. If it

takes the form of intensive teacher-led instruction involving interaction between teacher and pupils, as well as between pupils, the group should not consist of more than 10-12 pupils. Analyses carried out in several countries show that the teacher in an average class spends at least half his time talking, demonstrating, screening films, administering or monitoring tests, or engaging in similar tasks for whose performance class-size within reasonable limits is irrelevant. Large group instruction may be said to have three main functions: to motivate pupils, to introduce subject matter and exercises, and to report on exercises performed by individual pupils. The purposes of working in small groups are to afford the opportunity for common treatment of subject matter, to train analytical skills, and to develop the give and take of argumentative discussion. It is therefore of central importance for socialization. The independent work chiefly relates to individual problem solving and training in various skills, e.g. foreign languages. A third element of the work organization is so-called team teaching. The realization has dawned that there is little rationality in making *one* teacher responsible for all the instruction in one given subject or in all subjects that belong to a certain stage. The membership of a teaching team is understood to include not only the fully qualified head teacher and other teachers, but also assistants or helpers, who may be student teachers, clerks or housewives. It follows that a teaching team can permit a considerable differentiation of roles, for instance by enabling every member to render a personal contribution in that segment of a subject or with that methodology for which he or she is best fitted.

Perhaps the most sweeping transformation of work practices in the school which looms ahead is the development of more or less complete individualization, and upon which most of the teacher's endeavours will converge. The teacher will then be a person who diagnoses the status of every pupil, who sees to it that the pupil is confronted with appropriate subject matter and/or experiences (the latter taken to mean that all knowledge need not be verbally communicated), and who checks on individual progress. The occasions offered for such instruction must be such that will permit each pupil to learn under optimal conditions.

It will have emerged from the foregoing that the instructional ideal is total individualization. The educational researcher may be forgiven if, in more ecstatic moments,

he envisions the teacher as a physician who, after having made his individual diagnosis, writes out the best prescription for a pupil and tells him to have it filled out by a pharmacy of tried-and-tested didactic alternatives. That may strike many as talking about champagne when the best that can be offered in the practical school situation is small beer. None the less, this vision ought to guide us when we cross the threshold leading to the "industrial" era that also lies ahead of the school. The ideal must be to aim at giving every pupil the advantage formerly vouchsafed to the aristocracy alone, namely to have a tutor at his side. After all, why not emulate Philip of Macedonia, who gave his son Alexander an Aristotle ?

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Remedial—For What ?

'Remedial' should not mean helping those who have fallen a long way behind the average, but helping those who, for some reason, are temporarily unable to help themselves. This happens occasionally to all of us at all levels of education. Teaching should be seen as remedial in this sense and no more inflicted on normal children than are vitamin capsules or drugs or artificial additions to normal feeding.

—John Kirkham

THE TEACHER, March 17, 1972 p. 16.

4

Pre-School, Youth School and Adult Education : Structure and Priority Problems

4.1. Introduction

Until the middle of the 1960s, education debates and related reforms in Sweden concerned almost exclusively the youth school. The 1962 Education Act on the general introduction of the nine-year basic school meant, in a formal sense at any rate, the creation of equal educational opportunities for all young persons of school age. The 1964 reform of the gymnasium and vocational school and the 1969 reform of the upper secondary school can be regarded as a follow-up of the 1962 Resolution in the sense that new and wider opportunities were created for the next age level to cope with the educational explosion

set off by the basic school reform.

The very considerable expansion in the 1950s and the 1960s of the educational opportunities for the youth generation, however, meant at the same time that a great educational gap developed between the older and younger generations. At the same time, the social changes, not least the structural changes in the economy, meant that further education conferring qualifications became increasingly urgent for adult workers who found it necessary to keep up with the rapid changes in their occupations and often needed to be completely retrained for new occupations and types of employment. Increased international contacts through the mass media, travel and broadening in any other way of the individual's experience-horizon, created an urgent demand for orientation in a kaleidoscopic world. This entailed a demand for better general education. Thus, when the question of adult education was taken up in the 1960s, this was motivated not only by reasons of equity, but by the fact that individuals needed education more and more in order to cope with a dynamic working environment. Before that, adult education, or perhaps more correctly, adult instruction had been conducted mainly as popular education in the educational associations founded by the popular movements. Popular education had been guided from the outset by two motives: to train the movements' own spokesman on political and technical matters and to give the man in the street possibilities of broader general education from which he had been excluded through his not having access to schooling beyond a poorly equipped primary school.

The traditional popular education circles were for a long time sceptical, not to say hostile, towards adult education conferring qualifications. The municipal adult educational system, which was created as a by-product of the report on gymnasia and certain considerations relating to social benefits for students, created an entirely new situation. This new activity expanded rapidly and threatened to displace traditional popular education. The employer organisation (e.g. the Swedish Confederation of Trade Unions' report on adult education) soon realised the potential significance of studies conferring qualifications and became strong political advocates of greater investment in adult education.

The implementation of the youth school reforms decided on, involves very great resources, greater than was expected. The costs per student and per year in fixed monetary value tend to increase sharply, with the result that the automatic rises

in expenditure on education have been very substantial and that there has been little scope in recent years for new reforms in the youth school. At the same time, new demands are being made for appropriations, with strong political backing. Adult education, which has been described as a great equality-promoting reform, is, as we have seen, expanding rapidly and needs an input of new resources. Day nursery facilities are being investigated and voices have been raised in favour of introducing a compulsory pre-school. This proposal has been increasingly justified by the fact that people are becoming more and more aware that the environmental handicaps causing failure in the regular school begin at an early age and are already very noticeable when a child starts school. The establishment of a general pre-school would also help to create greater equality.

In this chapter, we shall deal first with the relative position of the youth school and adult education. The relationship between them has been made topical in an original way by U 68[1] with its proposals for "recurrent education". Its views are set out in the discussion paper entitled "Higher education, its function and structure".

4.2. Recurrent Education[2]

4.2.1. Why recurrent education ?

Recently, the term "recurrent education" has cropped up frequently in education debates and has received a mixed reception Some have said that it is nothing new, that we have had comprehensive adult education for a long time, and that for a long time the labour market has relied on continuous training, retraining and further education. Others have seen something strikingly new in recurrent education, some of them regarding it as a threat to culture or a threat to the competitive capacity of the export industry, as a lowering of standards in our universities and a compulsory period of employment for young persons. Others again see in it a highway for future educational planning, a possibility of strengthening a modern democratic culture and a necessity for economic development.

A good deal of the thinking behind proposals for recurrent education is not new. Most of it is familiar from earlier education debates. There, however, it was expressed as separate components of a whole,

1. U 68—or the 1968 Educational Commission—was appointed for the purpose of enquiring into the scope, organisation and location of post-gymnasial education in the seventies.

2. By Head of Department, Gunnar Bergendal.

the predominant pattern of which was the growth and internal structural change of youth education. The purpose of the debate that U 68 wished to inaugurate is to find out whether the basis of all educational planning should be shifted, to let recurrent education become the *over-all perspective* and to view in that light, inter alia, the question of the scope and direction of youth education. It should be added right away that if recurrent education really entails such a radical departure as both critics and supporters make out, it is not a reform that can take place overnight. It is a trend rather than a state, a common pointer for a whole series of decisions on reforms.

The need for a new look at education can be viewed from several angles. The *quantitative* planning problems are mentioned first, since the rating problem is a crucial question as things are today.

Forecasts of society's need for educated manpower have proved very unreliable planning instruments. Can the systematic "layering" of education and gainful employment help us to reduce the need for forecasts to covering the short-term demand and making possible a better mutual adaptation of employment and education?

In a rapidly changing society, *the allocation of educational resources* between young persons and adults should be different from that in a static society. This may be motivated by the need for equality between the generations but can also be inspired by economic considerations; the long-term investment in youth education should be weighed against the shorter term investment in adult education.

Recurrent education can also be viewed from the *angle of the individual.*

One of society's really vital aims is freedom of choice for the individual. Recurrent education is intended to give greater freedom of choice between gainful employment and study, the individual being enabled to return to study or gainful employment as the case may be. This emphasises greater freedom in the choice of employment for everyone.

The individual can find greater satisfaction in that studies and gainful employment are *"layered"* or are almost fully integrated. Greater satisfaction may result from the choice being seen as freer, but also from a *broader experience background.*

The points just mentioned show that, if recurrent education is chosen as a framework for educational planning, some major problems can be tackled more effectively than before:

A more effective *utilisation of resources* through better motivation on the part of the students and an opportunity for continuously reviewing the allocation of resources to the education of adults and young persons.

A more effective appraisal as between *what the individual demands and what the society demands of the education system*, and between education and society. This is true both of size and content. Can we hope that recurrent education will be better able to serve the purpose both of educating for a particular job and being a developmental factor in the actual job situation ?

The distinctions between *general education and vocational education* and between occupation and education can be reduced and in that way, the status of education as an instrument of social stratification can be decisively altered.

4.2.2. Organisation of recurrent education

Here, too, we shall enumerate a few main points. In a similar way, it is difficult to indicate what is primary and what is secondary, but the time perspective should be pointed out. Both highly topical questions and longer-term planning problems are more urgent in the over-all perspective of "recurrent education". We shall now discuss longer-term questions. It could, therefore, be assumed that most of the individuals concerned are completing or have completed at least 11 years' schooling. The point of departure of adult education is gradually shifting in that direction.

Adult education, for example at universities and colleges, receives students whose *previous knowledge and experience backgrounds differ.* More and more stress is being laid on the need for adapting such education to the individual's qualifications and wishes.

The purpose and organisation of the gymnasium should be reconsidered. To ensure genuine freedom of choice after completion of the gymnasium, all students should have received both occupational preparation and study preparation.

The condition for entrance to education should allow for the merits of varied experience backgrounds. In this connection, the necessary qualifications for undergoing the instruction will have to be clearly stipulated. General education requirements beyond what the compulsory school can satisfy for all students cannot be imposed. One of the questions to be considered is whether education at a particular level or with a particular orientation should be preceded by a period of gainful employment.

The rules respecting selection for a particular type of education should

be drafted in such a way that they do not restrict freedom of choice to small category of persons who gave evidence in *previous* education of talent and motivation for study. Perhaps this is the most radical innovation.

It is likely that education after the gymnasium will to a large extent be given to persons with at least some occupational experience. These persons will probaly be more geographically tied than the present students at universities and colleges. This involves a new conception of the distribution of education; in principle, post-gymnasium education should seek the student and not the reverse. The consequences for the *location of the educational institutions* and for new distribution methods are obvious. On the other hand, this will have organisational consequences which may be far-reaching.

Present experience of adult education is that it is largely used by the "strong" people with a good educational background. In unfavourable circumstances, recurrent education may intensify this effect. *Extension operations* which stimulate all those who do not seek education spontaneously will be vital. Such operations should be combined with changes in the content and methods of imparting knowledge and with revised rules respecting entrance qualifications and selection.

It should also be noted that the farthest-reaching methods of distributing education, for example television and correspondence courses, are very exacting and may have to be supplemented by "heavier" and more individually tailored teaching inputs.

Educational financing will be a decisive factor. Freedom to choose between education and gainful employment in early years should involve, inter alia, realistic financial conditions for those who choose gainful employment and later wish to return to education.

Recurrent education is, among other things, an attempt to meet more effectively the demands made by the working environment on education. This in turn, however, makes demands on the labour market. Young persons seeking their first job will be more prepared than they are today to continue their studies after sometime. Many of them will have less comprehensive vocational preparation behind them than those who have completed a vocational school education today. This adds urgency to questions regarding re-allocation of duties as between jobs, recruitment conditions involving security during periods of study, etc.

It is obviously impossible in a short report like this to cover all essential points in a range of questions which

is likely to be a framework for future educational planning for very broad sectors. I hope, however, that this outline has made it clear that recurrent education is not meant to be a phenomenon existing alongside of or following after youth education of a largely traditional nature. It has decisive repercussions on the educational system as a whole.

4.3. Adult education in the future[1]

The following three cogent reasons are to be considered in connection with adult education when one is dealing with long-term educational planning and with research and planning for the future :

(a) It is highly likely that there will be *a considerable increase* in the scope of adult education. Both demand and investment by society and the various organisations are increasing.

(b) In this connection, and following a number of changes in social and living conditions, it is also most probable that the *emphasis* will gradually shift from youth education to adult education.

(c) There are a number of shortcomings in adult education which create a need for *planning* to fill the gaps. The situation as regards the information basis is less favourable. There have been fewer surveys of problems and conditions and there is less research in this field. Thus, there is a danger that far-reaching decisions will be taken on an inadequate information basis.

One of the first aims of planning for adult education is therefore to create a better information basis.

4.3.1. Present situation

What can be said at the outset of the present situation in this field ? We shall begin by saying something about the various main types of adult education.

(a) *Job-related adult education,* which includes continuation training, further education and retraining. Each of these can be conducted under enterprise and trade association management on the Labour Market Board (AMS) and the Board of Education (SO). This activity includes an extensive range of types, kinds, levels, participants, time inputs, etc.

(b) *Adult education of the youth school type,* mainly "youth-patterned" and intended to compensate for a deficient education background and give adults a better general knowledge basis at basic school (advanced stage), vocational school and gymnasium levels.

(c) *Liberal studies and popular education.* This is a large and broad field with a different background

1. By Lector Torsten Eliasson.

and a large variety of forms, subjects, levels and directions, and meets need *not* met by the youth school. (To a certain extent, this is also true of category 1.)

Even at the present time, *more* people are engaged in adult education than in youth education. There is quite a marked *disparity in the distribution* of participation as between social categories and educational levels. This is true of adult educational activities among persons who have already received a proper start and live in socially, culturally and geographically favoured environments. At present, there is a *sharp increase* in participation in all three main types of adult education.

Subject-wise, adult education is more varied than youth education, and selection is much more difficult to grasp. Another factor that makes both surveys and choice of courses for participants difficult is the multiplicity of leadership.

A survey of labour market training including 75 per cent of all firms employing more than 500 persons showed a total amount of more than 30 million days of training (three evenings have been counted as one day). This, however, is only a small sector of the great, broad field of adult education. The number of study circles participants at the present time is approximately 1.4 million.

4.3.2. The profile of adult education

What might be called the characteristic feature of adult education, what distinguishes it from all other education, especially youth education ? In the first place, as has already been said, it is more diversified in content, types of course, organisers and leaders. Secondly, it has grown more "from below" or in a decentralised fashion. It has rarely been the result of central planning and general action at community level, but has developed in organisations, among citizen groups, in enterprises, in trade associations, without any over-all central planning. Thus, it is in a special way "close to the consumer". Thirdly, it is much less institutionalised and more flexible. The curricula and methods can more easily be changed and adapted. Fourthly, it has to operate on much smaller resources in the way of institutions, full-time staff, teacher training, research and prestige. This should be related to the two factors I mentioned earlier, i.e. that the adult education sector is probably the *fastest* growing and that it involves *more* people.

Colleges and universities are *not* included in the definition of adult education used here. Adult education is education for persons who have completed or interrupted their youth education some years before,

have begun to work and study while working, or during a brief interruption in their work.

4.3.3. Future outlook

What is likely to happen between now and the year 2000 ? All the trends we can now observe suggest that *the great expansion of adult education is still to come.* This is contrary to the current idea that the chief purpose of adult education is to compensate for a deficiency, i.e. to even out the generation disparities which the rapid educational reforms have created in the past decades. The reasons for expecting a rapid growth include wellknown structural changes, inter alia in employment, which affect the demand for adult education. There is the susceptibility to change the structural transformation in employment, which will probably be a normal feature of the social pattern of the future. There is the knowledge explosion. There is the marked trend toward internationalisation, which creates a need for new knowledge among adults. There is the increased proportion of leisure which creates both the demand for a new type of adult education and new scope for such education. There is the greater incentive frequency caused by travel and television which establishes contact with new sectors of knowledge. Nevertheless, the hypothesis of great future expansion is based not on these structural features but above all on the simple connection, of which we are always receiving confirmation, *that the more education one has received, the more one seeks in adult years.* The frequency of adult education is much greater among persons who have received above-average education and we know from the growth of the youth school that the highly educated categories are increasing. In present-day society, therefore, the categories with a large proportion of adult students are increasing rapidly.

An appraisal of future development is interesting not only *quantitatively.* It is also a question of *which type* of adult education this expansion will involve, as regards content and organisation. We are now faced with several *choices* of unprecedented significance, which are neither solely nor primarily dependent on structural conditions, but on *political decisions.* These choices can be outlined in the following three items:

The first concerns priorities in investment in youth education as against adult education. Are we to increase the quantity of education by mainly prolonging the youth school and obtaining larger and larger categories with longer and longer education at the "threshold of life", i.e., before entry into employment, or are we to invest in

education on adult lines ? What proportions of the budget and what proportion of the intellectual or personnel resources should be invested in young persons and adults respectively.

The second choice is partly connected with the first. How are we to break down the social barrier between the employment environment and the educational system ? Are we to try from now on to keep education as something apart and isolated or should we try harder to integrate education and employment, to organise education concurrently with employment, or during interruptions in employment ? Any investment in a part of adult education implies the creation of a number of transitional forms, combinations and intermediate forms which narrow the gap in present-day society between the educational situation and the employment situation. It may, inter alia, have the effect of dealing with the meritocracy problem.

The third choice is : *Which type* of adult education should receive priority, one which is mainly modelled on youth education and institutionalised or one which is innovative, which analyses the special needs of adults ? Then it will also be a choice between direct community administration and the maintenance of the "popular movement character". The education budgets of recent years have given priority to the institutionalised and youth-patterned types, which means that a major problem is being postponed and that, as a result, the possibility of change in the future is being limited.

This policy and planning aspect should be noted. It is *now* that decisions are taken and planning carried out with consequences for the future, despite a deficient fact-finding and research basis. Decisions are now being taken about investments and planning both by private bodies, under the management of the organisations, and by society, decisions, which will have consequences for a long time to come. There are two main trends in this investment. One is the retraining under the manpower policy. The other is a reproduction of the youth school on an institutionalised pattern, e.g. with youth school syllabuses, etc. It is this kind of adult education which is now rapidly receiving increased resources and which is absorbing personnel and time inputs, something which many people may strongly doubt.

4.4. Discussion of the Statements on Recurrent Education

Most of the questions are aiming at elucidating the problems as they are presented by U 68.

4.4.1. Definition and illustration of "equality" in education

QUESTION : How does U 68 define "equality" ? Is equality an end or a means ? Is it to be total or partial ? Can it be defined in terms of income and status ?

ANSWER : Hitherto, U 68 has not discussed "equality" from these angles and it is doubtful if it will ever do so. If one may hazard a guess as to the Commission's views on the questions raised, it might perhaps be the following : U 68 in its comprehensive material presents the significance and consequences of education as it affects equality. From there on, it will be the politicians' task to determine the specific content to be given to our efforts to achieve equality. In one respect, we are approaching a definition : "equal opportunity" might be seen as an operationalisation of "equality". Perhaps there has been a shift towards emphasis on equality for a greater part of a person's lifetime, not only during actual school age. It may be asserted, for instance, that equality does not exist among today's 20 year-olds. Approximately 30 per cent (those who have attended a traditional "gymnasium") are already selected to go on to higher posts in society, whereas equally large categories are destined to go no further. This is an important aspect to the equality problems in relation to adult education.

QUESTION : It is highly essential that equality in the educational field be defined. In this connection, the distinction between consumption of and investment in education should be noted. Up to what age should society guarantee opportunities for further education ?

ANSWER : The foregoing remarks prompt the comment that the degree of "equal opportunity" must be determined by the existing economic context. It is always difficult to set limits in the case of consumer and investment education. The idea of U 68 has been to give closer attention to the investment aspect by bringing the vocational preparation factors further down the educational system, as near as possible to the gymnasium stage.

4.4.2. Present inequality and increased equality in the light of societal conditions.

QUESTION : One is, of course, free to imagine that society in former days was nice and peaceful; people were predestined by their social situation for their role in society and had no need to worry about choice of occupation, alternative courses of study, etc. If, on the other hand, one disapproves of a hierarchical system like that, one obviously tries to change it. In this context, educational policy is a means of bringing about change. When the need for recurrent education is discussed, the theoretical courses of education are bewildering.

We forget, for instance, that a carpenter could very well undergo several years' education after his basic schooling in order to become a designer, etc. Later on, he could return again for further training to become a works manager. *Why must the top places in the hierarchy be occupied by people coming straight out of theoretical courses of education ?* Why can't people "from the shop floor" reach the top ? This type of hierarchy is an example of inequality.

ANSWER : There may be nepotism in the educational hierarchy, but will this ever be rectified ? Anyone who imagines he can alter this by expanding education *generally* is arguing on very doubtful lines. What is certain, on the contrary, is that such a system would be extraordinarily expensive. We are liable to reach a stage where most people will begin their careers holding a Candidate of Philosophy degree. As far as selection is concerned, we have no guarantee that we have raised the lowest level, i.e. that we will not still have a bottom layer whose children will also land at the bottom of the social ladder. Here, we have an inequality of status and wages which we ourselves have created by the overemphasis on the value of education which is inherent in our measures and which we ourselves must rectify somehow or another. To the extent that it depends on consequences in the educational system, it must be solved by educational measures. When we speak of education, we are thinking too much of "academic education". The career pattern just outlined whereby the carpenter rises by further education to the rank of works manager is not yet so natural as we would like to think. Investigations have shown, on the contrary, that people from "lower" social categories change their jobs and go from one trade to another on a scale of which not everyone is aware. In this context, adult education has a large and important part to play.

QUESTION : In our reasoning, we are perhaps unduly influenced by the present educational situation. Perhaps future generations will have a much more positive attitude to education in all its forms, inter alia, because the parent generation is tending to become better and better educated itself.

ANSWER : I do not share the optimism of what has just been said ! There is no doubt that the reforms carried out in the past decade have consequences of the kind just described, but there is every reason to wonder how far we have really succeeded in rectifying the present over-representation of the highest social category in education for certain attractive occupations. Here, we have an instrument of social

selection which must be borne in mind when efforts to achieve equality are discussed. A liberal doctrine, that financial and social obstacles hampering "gifted persons" should be removed and that formal equality must be created, does not help in this context. We must *actively* stimulate the underprivileged.

4.4.3. Objectives of the efforts to achieve equality

During the 1960s, it was found that, despite the measures adopted in the field of social benefits for students, there was a significant correlation between educational career and social background, which caused people to review the conception of the term "equal educational opportunity". In principle, there were two ways of achieving this, i.e. :

(a) to accept a de facto selection system, but to give special concessions to the "underprivileged". The quota system in selection for certain vocational training establishments, ensuring that persons with a gymnasium education were not the only ones admitted, can be said to reflect such a policy;

(b) to make the educational system more flexible by relieving students as much as possible of the need to make a final choice at an early stage of their educational career.

In addition to social, economic and geographical equalisation, an active equality policy should include an *active recruitment* factor. The public should be made aware of the possible effects of studies and education on their entire life situation. Inducing people to try to make the most of their opportunities should mean a desirable advancing of positions in relation to the efforts to achieve equality.

QUESTION : Isn't equality in the educational field Utopian? Efforts in this direction must sooner or later run up against the reality of individual differences in educational ability.

ANSWER : True enough, there are great individual differences in educational ability, but this should not make us set our targets lower. Thus, every individual could improve his performance, taking more or less as much time as he likes. This brings us educational planning. In some respects, we will perhaps find it more important to ensure that a large part of the nation "doubles its capacity" in some sector than to ensure that a restricted elite increase its capacity tenfold !

As already stated, equality is probably a "trend" rather than a specific target. One hundred per cent equality in education is beyond even the imagination. There are, however, several kinds of inequality, not only hereditary but, what is important, environmental. Here,

there are really untapped resources ! This is due not least to the proportion of *under achievement* (not the same thing as low performance) occuring in the basic school. There is great scope here for recurrent education and for the pre-school.

4.4.4 Criteria for evaluating the equality question

QUESTION : We can all agree that in present-day society, recurrent education is a necessity, but opinions may differ as to the basic values underlying the arguments put forward. Isn't it the case that the criteria on which our manner of defining equality is based, imply acceptance of the superiority of *intellectual* self-fulfilment over all other aims in life? Doesn't this perhaps involve a tendency towards one-sidedness, even pressure ?

ANSWER : It may perhaps be said that the equality question contains the following two conflicting elements: on the one hand, there is a desire to raise the level generally, to "straighten the ranks" and bring people into line, while on the other, it is maintained that everybody should go as far as his resources allow, which is, of course, contradictory.

It seems obvious that there is pressure. All the talk of untapped (intellectual) capital must feel like a slap in the face to all honest manual workers and farmers who do not intend to "raise" their level. They must be very sensitive to the reproach of having badly administered their capital since they did not obtain all the formal schooling that so many others have obtained.

Regarding the assertion that recurrent education might exert pressure by "obliging people to obtain further education", the following comment might be made. There is already a considerable amount of compulsion in the compulsory school attendance for nine years. The aims of the extension activities should be less to "straighten the ranks" than to rectify certain undeniable inequities in present-day recruitment for higher education.

An "imposed system of values" need not be something negative, but rather reflect a trend and a political desire. Education is one means of fulfilling oneself in order to see things clearly. It is society's duty to give people this clear view which leads in turn to a greater freedom of choice. This has beneficial aspects for both the individual and society as a whole. Thus, an extension campaign combined with an attempt to "sell" education cannot be something negative.

It is generally accepted that the educational system of the future will be organised in such a way as to give the individual repeated

opportunities of further education, so much so that discussion is virtually superfluous. On the other hand, the question *why* the individual should be given these repeated opportunities would be a suitable topic for discussion. Isn't the underlying philosophy, after all, that education is a better investment for the future than any other activity ? Moreover, isn't education as attractive as it is precisely, because it helps people to obtain certain desirable things, such as higher wages and better status ? *In that case, doesn't our equality policy imply at the same time that we are helping to preserve the social pattern whereby education confers status and income, which really counteracts equality in the deeper sense of the word ?* One of the conditions for genuine equality ought to be such a change in values as will ensure that equality is possible without everyone having made the fullest use of his talents in all fields !

4.4.5. Financing of education

QUESTION : The financing of education plays a vital part in the expansion of adult education. Unless proper financing of adult education is ensured every solution will be illusory. Two conditions must be fulfilled : (a) adult students must receive guarantees that they will not lose their jobs because of their studies; (b) during the period of study they must receive an income that does not seriously lower their standard of living. This may involve great difficulties.

One measure for promoting equality would be to discontinue the present post-gymnasium subsidies and to raise instead the ceiling for compulsory repayment. As far as the scope of the educational financing system for adult education is concerned, the framework of the present system is inadequate. This involves the use of percentages on aggregate wage amounts on the lines of the ATP.[1] This immediately prompts an equality question : should higher wages entitle a person to a higher study grant ? Other problems are also involved. Are grants to be related to individuals? Are education points to be debited and credited? Should there be a system which stimulates the individual to make use of his educational opportunities ?

ANSWER : An educational financing system on the lines of the ATP (the UTP)[2] is an old idea. Another

1. Supplementary Retirement Pension based upon the earnings during active life and using the 15 years of the highest income. This pension is financed through contributions by the employers in accordance with the amount of wage paid.

2. A suggested Educational Supplementary Insurance financed by contributions from the employers and providing grants and/or loans for participants in adult education.

possibility would be to make ATP funds available for educational financing, too.

This latter proposal (utilising ATP funds) would probably be very difficult to implement politically ! It would, of course, make it possible to mortgage a pension in advance, i.e. make the following plausible reasoning conceivable. I take a little from my pension (which is invested in education) so as to be a little better off tomorrow, while at the same time I increase my pensionable income. Or take, for example, a redundant person whose pension settlement is at a minimum and whose only hope is retraining. If he invests ATP monies, he takes a certain risk, but there is every reason to believe that he will be better off, partly during the remainder of his working life and partly as a pensioner.

The problems surrounding the UTP are not so much how it would work "education-wise" as how it would affect equalisation. We are still liable to meet the problem that those who are first to enter education will be first to enter the best jobs. Those who begin their career between the ageas of 30 and 40 start with a permanent handicap !

4.4.6. Adult education and recurrent education : organisational aspects.

QUESTION : The question is: how great is the need for formal further education ? Courses in the enterprise are, of course, an alternative. How close to the job should recurrent education be conducted ? This is a vital problem.

ANSWER : A survey of the entire present range of adult education in Sweden has been carried out at the School of Education in Stockholm.[1] The survey also includes the private sector, which is enormous.

QUESTION : Another question concerns the degree of vocational emphasis in the education provided at the universities. The education of economists, for instance, is tending to become increasingly general, with the result that a longer and longer period of on-the-job training is needed. In certain places, on-the-job training now lasts as long as six months.

ANSWER : The former division of university education into faculties has made it impossible to tackle these problms effectively. The main cause has been defence of the "freedom" of the faculties. Now a certain coercion has eased the problem somewhat. The same problems also occur in the gymnasium. Here, several vocational preparation factors should be considered for *all* students. With regard to the State's responsibility for undertaking the organisation of adult education and recurrent education, it should

1. Eliasson & Hoglund (1971)

be remembered that, later on, this must be structured in such a way as to fit in with the output of youth education.

4.5. Recurrent Education and Adult Education

4.5.1. The question of priorities

Everybody agrees as to the need for massive investment in adult education. Both social reasons and considerations of productivity promotion can be advanced in support of this. Since, for example the manpower supply will decrease in the 1970s, it will be necessary to increase our productivity if we wish to maintain our standard. Expanded adult education and recurrent education are essential for increased productivity.

In view of the situation that was discussed under the title of increasing costs in education[1], the expansion of adult education can be considered a problem of priorities in relation to financing. Adult education will have to share the economic facilities with youth education and, little by little with the expanded pre-school too.

It has been stressed that the youth school has now "had its share". It cannot expect to occupy a privileged position which will allow it to go on increasing its relative share of public investment in education. Others again maintain that it would be unreasonable to think of a relative reduction in the financial investment in youth education, and even advocate that youth education should receive a larger share.

Some doubt has been expressed as to whether the state authorities are really prepared for the large investment in adult education they have suggested. Until now, adult education has been low on the priority list; will it fare better from now on? The situation of adult education will not be improved by the fact that a tremendous increase in the older persons category is expected in the next decades. Environment conservancy problems will also have a strong impact on our economy.

It has been said that the present primary education in the basic school and the gymnasium is very long and that it is questionable whether the distribution of education among different ages is really an optimum utilisation of the resources.

4.5.2. The "education gap"

Following closely on the view that the "youth school has now had its share", some people have claimed that it achieved its priority position because it was backed up by skilful

1. Coombs, 1968, problems in "World Crisis in Education" connected with the rising relative costs of the educational system.

supporters and that it is now being successfully defended by eloquent young persons who know their own value in the production set-up and who know their rights.

The consequence of the large-scale investment in the youth school seems quite definitely to have been that we now have a certain measure of "over-education". What is assimilated in the youth school can be considered to a certain extent pure "educational consumption", i.e. knowledge and skills that are of minimum "use" to the students in general human terms or in their employment. Moreover, education in the youth school meets needs other than "preparing for life", e.g. the need to "take charge" of the young persons.

One unwanted effect of the improved youth education seems to have been a loss of parity between young persons and those who are not quite so young as regards desirability on the labour market. The latter have found it harder to compete for job opportunities. It has been said that even 30 year-olds (the last age cohorts attending the former primary school) are handicapped in this respect. Thus, if young persons seem to be well catered for at present as regards education, the older persons are worse off. Besides that, the "education gap" is tending to widen for different reasons.

Adult education, as conducted until now, has been unsatisfactory in many respects. One serious problem is the very low average age of the participants. The result has been that adult education has been used by those who need it least, while those really in need of education are lagging further and further behind. This is, of course, connected with the fact that adult education can only be effective, i.e. reach the educationally worst off, if it is combined with a considerable input of social benefits for students and active *recruitment* services, which are needed to ensure that adult education is not confined, as at present, mainly to the young and the education-conscious. It is obvious, therefore, that the inputs of social benefits for students will be costliest in adult education.

Problems of educational techniques are likely because of insufficient (often non-existent) habits of study. Then there is the drop-out problem which has proved particularly awkward. Moreover, it is often the "wrong students" who drop out, i.e. those who need education most but who at the same time present the greatest motivation problem.

4.5.3 Organisation of adult education

Another of the problems inherent in adult education is leadership. *One* possibility would be to make adult education subordinate to the Labour Market Board instead of, as now, partly subordinate to the Board of Education, which is probably too much involved in the youth school to be able to give the attention that will be needed to ensure proper support and structure for adult education. Perhaps the Board of Education is also too much of an established government department to operate as unconventionally and with as great a freedom from preconceived ideas as the very heterogeneous situation of adult education will demand.

The adult education of the future—and particularly the part of it having the nature of recurrent education—will entail a division of responsibility for education between the public sector and the private sector. One possible solution will be for society to take charge of the more general educational part (i.e. everything that involves "learning to learn"). This prepares people for further education or retraining for specific occupational duties, which are provided in principle by the employers themselves.

Another problem is premises. Where should adult education be accommodated ? At present, geographical differences in quality, especially between town and country, are a problem.

4.5.4 Financing of adult education

There is a certain degree of unanimity, at least among those who have expressed an opinion, as to how adult education should be financed.

In order to defray the cost of education intended to make people "retrainable" to the extent that will be necessary and the cost of social benefits for students, it has been proposed that we will get some kind of "education insurance" on the lines of the supplementary retirement pension (the ATP).

This system, partly financed by employers, could, in conjunction with adult education, develop into a subject for negotiation with alternative demands on the employer's side. The insurance scheme could comprise a loan portion and a grant portion and be based on some kind of points system, whereby the number of employment years would yield a dividend in the form of education points. Insofar as adult education is financed by employer's contributions, wage-policy implications are likely. If education points are to be allocated in proportion to income level, equality problems are likely.

Another aspect of adult education is that it may become an economic policy instrument during periods of under-employment.

In addition to the cost of providing social benefits for students, the really heavy expenditure item in connection with adult education will be loss of production. It will there-

fore be important from the employer's point of view that adult education should be organised so as to minimise this. This can be done by arranging that adult education is provided partly at a time which would otherwise have been earmarked in the form of reductions in working time.

4.6. Limited Resources and Necessary Priorities

4.6.1. Adult education, youth education and pre-school

At present, a large number of industrial countries are experiencing an increase of costs in the educational sector which is causing it to claim a growing proportion of the gross national product. This rise in costs is apparent both in municipal and in state contributions. Many people have said that education costs will soon reach a level which cannot be substantially exceeded.

When this happens, educational planners and decision-makers will be faced to a greater extent than at present with compulsory determination of priorities. A possible source of conflict is the constant expansion of the educational system, an area in which the need for expanded adult education and the establishment of a general pre-school will compete for resources with the youth school.

QUESTION : Is it right to say that the youth school has "had its share", and that it is high time to invest in the "large silent mass" which is not articulate enough to press its claim to education?

ANSWER : The answer will depend on the initial situation one has in mind. In the 1970s, and probably in the first half of the 1980s, it will certainly be necessary to invest in the age groups which are, and which consider themselves to be, neglected because of the imperfection of the former education system. An expansion of adult education in its present form combined with extension services, seems necessary. In the case of the age groups now being educated in the basic school, a radical new approach to the organisation of adult education will probably be needed. The expansion of the opportunities of entry into various post-gymnasium types of education, which has already begun, will probably be further extended. A lot of what is now regarded as vocational education, will be attached to the higher learning sector after the expansion of the gymnasium. A large proportion of the adult education of the future may be absorbed by or co-ordinated with the activities in a college considerably expanded as regards content.

We have a youth school which, despite a number of obvious defects,

nevertheless qualifies young persons much better, generally speaking, for employment than the very large categories of middle-aged persons whose education is definitely inferior to that of their children, to simplify the argument. This disparity is particularly true in the case of the large categories of married women who, through the efforts of the state authorities, are now able to seek a place for themselves on the labour market.

It seems quite clear that relations between youth education and adult education should be changed, and such a change must affect the structure of youth education.

A rough projection shows that in the year 2000, the labour market will have the following composition as regards education :

700,000	persons with higher education
1,200,000	persons with gymnasium education
2,900,000	persons with basic school education
1,300,000	persons with primary school education
Total : 6,100,000	persons between the ages of 18 and 67.

At the beginning of the next century, therefore, there will be nearly twice as many persons with primary school education or less as persons with higher education. It is quite clear that the problems in education and on the labour market will be caused by the under-educated, older persons and all others who are handicapped in some way. These problems must be solved by extension seeking adult education and some system of recurrent education, in which the question of educational financing, inter alia, has been solved.

The question can be answered by a vague "yes and no". The youth school with its present duration has received much more than other categories, but not enough to function as most people would like, for example as regards buildings, suitable premises for all the wishes hitherto expressed, specialised personnel, technical aids, etc. Nevertheless, there will probably have to be a decrease in the growth rate of the youth school and a corresponding increase in adult education.

Even a certain redistribution of the resources at the gymnasium level should be considered. We shall say more later of the practical sector. The youth school may perhaps have "had its share" as far as the total amount of resources is concerned, but much has still to be done as regards improving the *allocation* of resources within the youth school and making the *utilisation* of resources more effective. It would,

therefore, be reasonable if the total volume of resources were increased more rapidly for adult education, etc., than for the youth school.

Yes, the constant quantitative expansion of the youth school should now be slowed down.

QUESTION : Is it advisable to plan for a further prolongation of compulsory school attendance ?

ANSWER : Yes, in the long term, but investment in adult education is still more important; in the medium term, the resources should therefore be directed towards adult education.

The constant expansion of adult education, especially on the lines of "continuous education", ought to *reduce* the need for compulsory school attendance at the gymnasium stage.

Trying to achieve an optimum balancing of the individual's rights, and obligations vis-a-vis the individuals on the other hand, would probably be more important than compulsory school attendance in the conventional sense of the term.

A prolongation of compulsory school attendance is conceivable in conjunction with recurrent education. It would probably be wrong to prescribe, for instance, 11 years' compulsory schooling plus one, or possibly two, years of compulsory pre-school. There is no need for compulsion. There should be increasing freedom of choice instead. Perhaps a solution will be found for the problem of recurrent education which will give every individual normal facilities for the aggregate period of edcuation during his lifetime, without a formal obligation to use all the facilities.

The educational system can be a social selection instrument of hitherto unknown power, conferring education and, consequently, prosperity on persons with educational motivation and aptitude. Different methods can be tried to distribute education more evenly among individuals. One such approach may be to extend the period of compulsory education. In such event, there are good reasons why less educationally motivated individuals should fulfil the obligation in one consecutive period.

In my view, the main need is not to *expand* the compulsory school, but to integrate it fairly closely with adult education of the future. Even before the next school year, it is planned that approximately 90 per cent of the annual intake of 16 year-olds will receive gymnasium education. It seems, therefore, that in the 1970s it will also be advisable to extend compulsory school attendance to the gymnasium, but – if so – with a flexible system of two years' additional entitlement to schooling

which can be selected with full freedom of choice. It is likely that a "residue" of between 5 and 10 per cent will wish to defer these two years.

QUESTION : What kind of principles should apply if compulsory determination of priorities were to be introduced in the form of assessing the relative merits of investment in the pre-school, youth education (even beyond the compulsory period) and adult education ?

ANSWER : I have already mentioned adult education. After that, I would give priority to the pre-school. I do this to a certain extent for the reasons stated above, i. e. the fact that a very large number of women with children wish to take up gainful employment, which will entail considerable investment in all kinds of pre-school education.

The principle in determining priorities should be to give preferential treatment "sooner or later" to those who are worst off. This is an equality requirement that may not yet be recognised, but its day is coming. During the next decade, at any rate, adult education and then little by little the pre-school, too, should receive top priority. In the longer term, however, quantitative expansion should be so far-reaching at all levels that this question of determining priorities would hardly be an urgent one. Instead, one of the chief problems will then be to incorporate a steady flow of new knowledge and new skills into the increasingly varied range of recurrent education. Adult education should be given top priority, investment in the pre-school should take second place, and youth education third place.

I cannot answer the question as it is put. Compulsory determination of priorities is not a hypothetical phenomenon of the future but already exists and has always existed. What principles, then, have hitherto governed this determination of priorities, and will they have to be changed to suit the future ? One would need to have access to an analysis of existing priority standards to decide whether changes are desirable and, if so, what direction they should take. In the absence of a fundamental analysis of this kind, I shall venture to make a few bold guesses about one or two conceivable questions. The reasonable and routine starting point should probably be, that the aim of the education policy is to satisfy the public's education demand (for consumption or investment). If the public's "true" preferences are such that the demand rises quickly as incomes, etc., change, there is no inherent reason for concern about constantly rising expenditure on the education sector. With the present arrangement of the

education market, the problem is to find out these "true" preferences and to devise such shadow prices through intake mechanisms, etc., as will give us a scale and pattern of output consistent with these preferences. One of the first questions to be clarified in this connection is whether it is in the interests of society to assign a special value to education, as compared with other consumption and investment, and whether on that account a special subsidy factor would be justified in the sense that a special deduction from the shadow prices is advisable. Personally, I am very doubtful if such reasons still exist. In order to reach a decision on this, it would be necessary to find out exactly whether there are possibly some factors of intellectual snobbery in the evaluation of education. If so, they should be reasonably eliminated. The practical reasons that could be advanced for paying subsidies must imply that education has positive external effects. I can imagine research having such effects, but cannot quite see education, as such, having them.

If positive external effects cannot be substantiated, the subsidy factor must be eliminated as far as possible. (If they can be substantiated, an attempt should be made to decide what would be a reasonable degree of subsidising.) If, for a number of different reasons, however, one cannot have a market price formation ensuring a balance but must apply free education, loan facilities for students, etc., the problem will be to try and assess the demand at the shadow prices which should apply and arrange the intake to the educational establishments accordingly. In these respects, I have no substantiated knowledge whatever and I can only ventilate a personal feeling or belief. Taking the investment estimates in education first, the question arises whether education right up to entry into employment (compulsory school plus gymnasium and university education) is sufficient for the next few decades, at least at the relative price that the employers (state, municipality, private employers) have to pay at present for this kind of manpower. (Here I am referring to the price for educated workers in relation to that for other less educated workers.) At the shadow prices which should conceivably apply and which would imply a higher relative price, the demand should be less. Thus, a cut in intake would then be advisable. With regard to education after entry into employment (further education, adult education) the problem may be different if the investment aspect is maintained. Judging from the employers' willingness to send out employees to different types of courses and conferences, etc., where they usually pay "full" price, one might perhaps in that case believe in increased demand and output.

Looking at the consumer aspect, one will probably feel at least as doubtful whether, since one is trying to apply a shadow price reasoning, there will be a demand in the future higher than that corresponding to the present student intake at an initial stage of education. If, for reasons, of equity and income distribution, adults are to be offered access to educational facilities just as much subsidised as those for young persons, this would certainly produce an increased demand. The vital question in this case, however, is whether one should adopt such an approach on grounds of equity. Is it, for instance, impossible to adopt the other approach of reducing the subsidy factor for young persons ?

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